



Ca' Foscari  
University  
of Venice

Master's Degree in Language Sciences

Final Thesis

**LEARNING A FOREIGN LANGUAGE  
IN AN OUTDOOR EDUCATION CONTEXT:  
CHALLENGES AND POSSIBILITIES**

**Supervisor**

Professor Carmel Mary Coonan

**Assistant supervisor**

Marcella Menegale PhD

**Candidate**

Joangela Ceccon

844033



## ACKNOWLEDGMENTS

First of all, I wish to thank the schools that took their time to respond to the questionnaire and therefore enabled this research to be conducted. Without their contribution, this project could not have been completed.

Therefore, my heartfelt thanks goes to Bosque Escuela La Tribu, an anonymous school in Piedmont, Casa nel Bosco, APS Piccoli Passi, APS Tutti Fuori, Asilo nel Bosco Fattoria Emoyeni ASD, Piccoli Passi Educazione in Natura APS, Educare nel Bosco Alto Garda (Calino e Ledro), Educare nel Bosco Ortisei, Scuola dell'Infanzia Don A. Sbaiz, Grupo de Juego en la Naturaleza Saltamontes.

Secondly, I thank my supervisor, Professor Carmel Mary Coonan, for the guidance she kindly and patiently offered me during the year that was invested in this research project, as well as my co-supervisor, Doctor Marcella Menegale, for her helpful comments during the revision process.

Finally, I owe my gratitude to the people who most supported me during the long days of studying, revising, exam-taking, researching, and dissertation-writing that have absorbed much of my time and energy in recent years. To my family and closest friends, thank you.

# TABLE OF CONTENTS

ACKNOWLEDGMENTS	i
ABSTRACT	v
INTRODUCTION	vi
PART ONE: THE THEORETICAL BACKGROUND OF FOREST SCHOOLS	1
1. OUTDOOR EDUCATION: HISTORICAL DEVELOPMENT	1
1.1. Introduction	1
1.2. Historical development of outdoor education	1
1.2.1. The pioneer: Frobel's kindergarten in Prussia	2
1.2.2. Early approaches in Denmark and the Danish Early Years Pedagogical Practice of Using the Outdoors	3
1.2.3. Forest schools today: the 'classic' and the 'integrated' models	4
2. OUTDOOR EDUCATION: A MELTING POT OF THEORIES	6
2.1. Introduction	6
2.2. The influence of some classic theories of pedagogy and child development	6
2.2.1. Piaget's theory	6
<i>i. Piaget's four stages of development</i>	7
<i>ii. Critiques to Piaget's theory</i>	8
2.2.2. Vygotsky's theory	9
<i>i. The Zone of Proximal Development</i>	10
<i>ii. Vygotsky about Piaget</i>	11
<i>iii. The legacy of Vygotsky's intuitions</i>	11
2.2.3. Bruner's theory	12
<i>i. Bruner's three modes of representation</i>	12
<i>ii. The spiral curriculum</i>	13
2.2.4. Dewey's theory	14

2.3. Similar approaches in other educational alternatives _____	14
2.3.1. Maria Montessori _____	14
2.3.2. Rudolf Steiner _____	16
2.3.3. The notion of emergent curriculum and the Reggio Emilia Approach _____	16
2.4. Outdoor education’s own pedagogy _____	18
2.4.1. The Outdoor Education Tree _____	18
2.4.2. Learner-centredness and self-directed learning _____	20
2.4.3. The importance of free play _____	21
2.4.4. Experiential learning _____	22
2.4.5. Gianfranco Zavalloni’s Manifesto of Children’s Rights _____	23
3. FOREST SCHOOLS AROUND THE WORLD _____	24
3.1. Introduction _____	24
3.2. Forest schools around the world today _____	25
3.2.1. The UK _____	25
3.2.2. The Republic of Ireland _____	27
3.2.3. Germany _____	28
3.2.4. Austria and Switzerland _____	29
3.2.5. Spain _____	29
3.2.6. Italy _____	29
3.2.7. The Nordic countries: Finland, Norway, Sweden and Denmark _____	31
3.2.8. North America: the USA and Canada _____	31
3.2.9. South Korea _____	32
3.3. The 2020 COVID-19 pandemic: a surge of interest in outdoor education _____	32
4. FOREST SCHOOL RESEARCH AND CURRENT OPTIONS IN EARLY LANGUAGE EDUCATION _____	34
4.1. Introduction _____	34
4.2. Some of the research conducted to date _____	34

4.2.1. Theoretical aspects of interest to educators _____	35
<i>i. Constructivist learning</i> _____	35
<i>ii. Academic achievement (as compared to ‘regular’ kindergartens)</i> _____	35
4.2.2. The benefits of forest school environments _____	36
<i>i. Self-esteem, social skills, knowledge and motivation</i> _____	36
<i>ii. Language and communication</i> _____	37
<i>iii. Physical skills</i> _____	39
4.2.3. Outdoor Learning in Europe _____	39
4.2.4. A gap in the research: language learning in forest schools _____	41
4.3. Language learning in early education: current options _____	41
4.3.1. English and plurilingualism in Europe _____	41
4.3.2. Italy and national guidelines: nursery school, primary school _____	42
4.3.3. Immersion education _____	43
4.3.4. The private sector (e.g. language schools) _____	44
PART TWO: THE RESEARCH PROJECT _____	45
5.1. Introduction _____	45
5.2. How do forest schools compare to current options? _____	45
5.3. The research project: objectives and research questions _____	45
5.4. Participants _____	46
5.5. Time frame _____	47
5.6. Materials and instruments: the questionnaire _____	47
5.7. The questionnaire: aims and contents _____	48
PART THREE: RESULTS AND DISCUSSION _____	51
6.1. Introduction _____	51
6.2. Results _____	51
6.2.1. Setting: type of forest school _____	51
6.2.2. Age and its relation to language acquisition _____	52

6.2.3. Linguistic environment: multilingualism, bilingualism, monolingualism	53
6.2.4. The curriculum and opportunities for language acquisition	55
6.2.5. To introduce or not to introduce children to foreign languages: exploring the reasons behind each choice	58
6.2.6. An exploration of critical factors in language acquisition	60
<i>i. Frequency of exposure</i>	61
<i>ii. Routines and meaningful language use</i>	63
<i>iii. The teacher's competence</i>	66
6.2.7. Outcomes	67
6.2.8. Challenges and solutions	68
6.2.9. Plans for the future	73
6.2.10. Information about the participants and their geographical context	74
6.3. Discussion	76
6.3.1. Contextualising the discussion	76
<i>i. Learning a foreign language and early education</i>	76
<i>ii. Age and the Critical Period Hypothesis</i>	77
<i>iii. Language representation and neurological development</i>	79
<i>iv. The Acquisition vs learning theory</i>	80
6.3.2. Research question 1	81
6.3.3. Research question 2	82
6.3.4. Research question 3	85
6.4. Ideas for further research	87
CONCLUSION	88
REFERENCES	90
FURTHER READING	104
APPENDICES	108

## ABSTRACT

### **English**

*The aim of this research is to provide an initial view of how foreign language learning can be encouraged in an outdoor education context, and in particular in forest schools. Part one offers background information about various facets of forest school education in terms of historical development and pedagogical influence, as well as an overview of forest schools around the world and a literature review on forest school research. Part two presents the research project, focusing on its objectives and on its research questions. Finally, part three analyses and discusses the data obtained through the research in relation to relevant theories and recommendations for language learning. The research suggests that while not all outdoor education providers or forest schools include foreign language learning in their offer, some have developed strategies or programmes that can encourage foreign language learning in an outdoor setting.*

### **Italiano**

*Lo scopo di questo progetto di ricerca è fornire uno sguardo iniziale in merito alla possibilità di apprendere delle lingue straniere in contesti di educazione all'aperto e in particolare nelle scuole del bosco. La prima sezione offre una contestualizzazione teorica delle sfaccettature dell'educazione nel bosco, in termini di sviluppo storico e di influenze pedagogiche, oltre ad una panoramica della diffusione delle scuole nel bosco nel mondo e ad una revisione dei temi principali trattati dalla letteratura accademica sulle scuole nel bosco. La seconda sezione presenta il progetto di ricerca, definendo gli obiettivi e le domande di ricerca. Infine, la terza sezione analizza i risultati ottenuti tramite la ricerca e li discute alla luce delle più rilevanti teorie e raccomandazioni per l'acquisizione linguistica. Questo progetto di ricerca indica che benché non tutte le scuole nel bosco includano l'apprendimento di una lingua straniera nella propria offerta formativa, alcune di esse hanno sviluppato strategie o programmi che promuovono l'apprendimento delle lingue straniere in contesti di educazione all'aperto.*



*'Each generation gives new form to the aspirations that shape education in its time'*

*(Bruner 1960:1)*

*'Every language learner is unique' (Pinter 2011:92)*

## INTRODUCTION

When we think of education, do we ever ask ourselves when classroom-based education became mainstream, or whether there are any alternatives to this supposedly 'traditional' way of learning?

Certainly many alternatives exist. This research project will focus in particular on a variety of outdoor education: forest schools. But what is outdoor education, and what are forest schools?

Whether or not these concepts are completely new to the reader, they are likely to elicit a feeling of wonder and perhaps the perception of a contrast between the notion of being outdoors and that of education or schooling. The sense of novelty that these ideas generate in us is arguably linked to our own, often subconscious – yet culturally defined – view of education itself. As developmental psychologist Peter Gray observes:

Today most people think of *childhood* and *schooling* as indelibly entwined. We identify children by their grade in school. We automatically think of *learning as work*, which children must be forced to do in special workplaces, schools, modeled after factories. All this seems completely normal to us, because we see it everywhere. (Gray 2013:65; italics added)

Yet things have not always been so. Our current understanding of education and schooling is embedded in our social, economic and cultural history, which through the centuries has been shaped by course-deviating changes in the interconnected fields of politics, religion, social hierarchy, economics, science and culture. To this regard, Gray adds:

We rarely stop to think about how *new and unnatural* all this is in the larger context of human evolution and how it emerged from a bleak period in our history that was marked by child labor and beliefs in children's innate sinfulness. *We have*

*forgotten that children are designed by nature to learn through self-directed play and exploration, and so, more and more, we deprive them of freedom to learn, subjecting them instead to the tedious and painfully slow learning methods devised by those who run the schools. (Gray 2013:65; italics added)*

In a context of increasing awareness of the limitations of current educational models, some parents, educators and scholars are challenging the status quo of education in manifold ways. In recent years there has been a rising interest in alternative education, such as outdoor education, homeschooling, ‘unschooling’, Montessori and Steiner approaches – and the list could continue. It is believed that alternative approaches to education can be beneficial to *all students*. All students can benefit from being free to pursue their interests and develop their skills in a holistic way, including children with learning difficulties, students who have been diagnosed with ADHD (*Attention Deficit Hyperactivity Disorder*), and children with special needs.

Another voice in this yearning for alternative educational paths was that of Ken Robinson (1950-2020), a writer and international advisor on education who argued in favour of a ‘paradigm change’ in education. According to him, ‘The problem is that the current system of education was designed and conceived and *structured for a different age*’ (Robinson 2010, italics added), namely for the society of the industrial revolution. Moreover, it was influenced by the Enlightenment's view of human intelligence, which valued deductive reasoning, a knowledge of the classics, and what we may define as ‘academic ability’.

Robinson stated that ‘we have a system of education that is modelled on the interests of industrialisation and in the image of it’ (Robinson 2010). Standardisation, in fact, is an essential feature of testing and curricula. Robinson argued that this ‘paradigm’ should be changed by going ‘in the exact opposite direction’: we need to ‘think differently about human capacity’ and ‘recognise that most great learning happens in groups, that collaboration is the stuff of growth’ (Robinson 2010). Finally, Robinson stated that we need to reconsider ‘the culture of our institutions, the habits of institutions, and the habitats that they occupy’ (Robinson 2010).

Although the ideas of scholars such as Gray and Robinson sound truly inspiring, one may wonder whether it is actually possible for children raised in alternative education environments to develop the skills and acquire the knowledge which is deemed necessary in today’s

globalised, digitalised, multicultural and multilingual world. For instance, how can children learn foreign languages in such settings, without any formal instruction? It is understandable that parents and educators may be concerned about matters of this sort. In fact, there may be a gap between what alternative education environments offer and societal expectations.



This research project focuses on the challenges and possibilities of foreign language acquisition or learning in such alternative environments. In particular, it aims to offer an overview of the current situation with regard to outdoor education and in particular forest schools, in order to answer a number of questions:

*Is it possible to introduce children to foreign languages in forest schools? What are the reasons for choosing to do so, or not to do so? How can it be done? What are the challenges, the possibilities and the outcomes of such choices?*

The present study is divided in three parts: the first one provides the theoretical background of forest school education; the second one exposes the objectives and research questions of this research project; the third one discusses the results vis-à-vis the research questions and theoretical perspectives on language education.

Part one is divided in four chapters which provide a theoretical background to this interdisciplinary area of research. The chapters examine the historical development of outdoor education and forest schools, as well as some of the theories that inform the pedagogical approach of forest school education. These chapters also provide a geographical overview of forest schools around the world and include a review of some of the research conducted to date. Part two presents the research questions that this work addresses and explains how the research project was devised and conducted. Part three reports and discusses the most relevant answers to the questionnaire which were submitted by the respondents. It aims not only to offer a picture of what forest schools are currently doing with regards to foreign language learning, but also to assess the extent to which these choices conform to the guidelines and recommendations of language acquisition theories.



This study is not intended to offer any definitive or clear-cut answers. Its main aim is to *explore* and *question how* the learning of foreign languages can be promoted in forest schools, considering the challenges and possibilities of this particular outdoor context.

## PART ONE: THE THEORETICAL BACKGROUND OF FOREST SCHOOLS

### 1. OUTDOOR EDUCATION: HISTORICAL DEVELOPMENT

#### 1.1. Introduction

The questions and challenges posed by pedagogists and thinkers such as Gray and Robinson are increasingly being answered by outdoor education approaches. This chapter will propose an overview of the historical development of outdoor education, with a special focus on forest schools.

#### 1.2. Historical development of outdoor education

‘Outdoor education’ is an umbrella term to refer to a wide variety of learning approaches and educational contexts. As the table below indicates, forest schools and nature kindergartens pertain to the categories of ‘regular outdoor learning’ and of ‘outdoor play’ (O’Brien et al. 2011:347).

<b>Outdoor learning approaches</b>	<b>Examples include</b>
School grounds/gardens/community projects	Eco schools
Outdoor therapeutic and learning projects	Wilderness therapy interventions
Outdoor visits	School visits/trips to a forest classroom or green space
Regular outdoor learning	Forest School, nature kindergartens, practical environmental volunteering, and more targeted projects for people with certain disabilities or social problems
Guided walks/events	Fungi foray’s, nature walks, bird watching
Environmental education	Trips to field study centers, residential courses
Outdoor play – particularly for young children	Nature kindergartens, nature in school grounds, Forest School
Modern apprenticeships	Training and skills development in nature through specific programs
Adventure and recreation activities	Outward Bound and residential courses

*Figure 1: Outdoor Learning approaches, O’Brien et al. 2011:347*

The following pages provide an overview of the development of forest schools. From a terminological perspective, it is important to note that the term ‘forest school’ is ‘a made-up

English name' for what the lecturers from Bridgwater College (UK) observed during a study trip to Denmark in 1993 (Williams-Sieghfredsen 2012:1). The names for outdoor education projects vary from project to project and from country to country.

### **1.2.1. The pioneer: Froebel's kindergarten in Prussia**

Before the 1850s there were no systems of public education; rather, a lucky few could be educated by religious institutions, or receive private instruction (Robinson 2010). Moreover, until the 1700s the notion of being outdoors was mainly related to that of *survival* against the natural elements.

During the 18th century there occurred a shift in the attitude towards being outdoors (Williams-Sieghfredsen 2012:7), when the Romantic movement proposed that Nature be regarded as a Mother, as the enabler of aesthetic experience. Slowly but surely, people – especially wealthy people – began to celebrate the desirability of spending time outdoors and of being engaged in a variety of activities.

However, the increase in urbanisation which occurred with industrialisation radically modified the population's lifestyle, and by the end of the 19th century, being outdoors had become an integral part of healthcare: doctors recommended staying outdoors in order to improve people's health, which was being affected by the new, industry-driven habits and practices.

Around the same time, educators and pedagogists began to promote outdoor practices. In fact, the first kindergarten was opened in 1840 in Germany by Friedrich Froebel (1782-1852), 'the founder of the kindergarten movement and a theorist on the importance of constructive play and self-activity in early childhood' (*Education*, Britannica 2019). In 1837 he opened 'a school for the psychological training of little children by means of play' in Blankenburg, Prussia. By adopting the name *Kindergarten* (literally 'the children's garden'), a term that clearly resonates with Nature, he wanted to emphasise the importance of the environment in which children, like plants in a garden, could grow (*Education*, Britannica 2019).

The difference between Froebel's kindergarten and other institutions which already existed at the time in other countries (such as in the Netherlands, England and Germany itself) was that Froebel did not simply provide parents with a day-care service – his kindergarten provided

children with opportunities to socialise with their peers and to learn about themselves and others. In fact, the curriculum of Froebel's kindergarten included a triad of activities: playing with inanimate objects, playing with other children, and 'gardening and caring for animals in order to induce sympathy for plants and animals' (*Education*, Britannica 2019). Froebel died in 1852, and after his death, kindergartens inspired by his pedagogical approach and curriculum were set up in major cities across Europe and North America, and even in Japan.<sup>1</sup>

The emphasis on socialisation, free play and the development of care for the natural world can also be found in forest schools today. Forest school practitioners generally encourage play and peer-led learning, and they believe that the forest school environment is particularly suitable for 'discovery-led styles of teaching' (Harris 2017:287).

### **1.2.2. Early approaches in Denmark and the Danish Early Years Pedagogical Practice of Using the Outdoors**

Froebel's school inspired Søren Sørensen to open a similar school in Denmark in 1854, and in 1901 the first *folkebørnehave*, 'a public kindergarten for ordinary working people' (Williams-Sieghedsen 2012:8) was opened by Sofus Bagger and his wife Hedevig. The Baggers' school had farm animals and offered the children ample opportunities to interact with them, as well as to play at farming the land (ibid). Finally, in the 1950s Ella Flatau, a Danish mother and pedagogue, started a project called *vandrebørnehave* – 'wandering kindergarten'. In fact, this was an itinerant or travelling enterprise, so every morning the children would gather at a meeting point, explore different places and engage in different activities during the day, and finally return to the meeting point to be picked up by their parents (Bentsen et al 2009:30).

Today there are almost 300 nursery schools in Denmark called *udeskole*, or 'outdoor schools' (Bruchner 2017:12). In fact, since the 1970s an increasing awareness of environmental issues has sparked people's interest in nature, so that Denmark in particular has taken 'a progressive stance of environmental preservation' (Williams-Sieghedsen 2012:8-9).

---

<sup>1</sup> 'In Great Britain the term *infant school* was retained for the kindergarten plan, and in some other countries the term *crèche* has been used' (*Education*, Encyclopaedia Britannica 2019).

Originally, the term *forest school* in English was employed to describe ‘the Danish practice of children in early years settings using the outdoors every day, all year round as part of their pre-school education’ (Williams-Sieghfredsen 2012:9). Although outdoor education is not a novelty in Denmark, ‘it is only recently that an interest has been taken in understanding the benefits to children of being and learning outdoors’ (ibid.).

In Denmark there is not just one type of forest school – rather, there are

- *skovbørnehaver* (forest or wood kindergarten)
- *skovgruppe* (forest or wood groups)
- *naturbørnehaver* (nature kindergartens)

as well a ‘ordinary early years settings that use the outdoor are they have available’ (Williams-Sieghfredsen 2012:1-2)

Williams-Sieghfredsen lists the following principles of ‘the Danish early years pedagogical practice of using the outdoors’:

1. A holistic approach to children’s learning and development;
2. Each child is unique and competent;
3. Children are active and interactive learners;
4. Children need real-life, first-hand experiences;
5. Children thrive in child-centered environments;
6. Children need time to experiment and develop independent thinking;
7. Learning comes from social interactions.

(Williams-Sieghfredsen 2012:9-10)

Another concept which recurs in forest school literature is the Danish word *friluftsliv*, which ‘roughly translates to “open-air life” and is used to describe a culture and a way of life that heavily revolve around exploring and enjoying nature in a noncompetitive fashion’ (Åkeson McGurk 2017:8).

### **1.2.3. Forest schools today: the ‘classic’ and the ‘integrated’ models**

Broadly speaking, a forest school is an outdoor space (which can be complemented by an indoor space, as well) which serves as a learning environment for young children. At least two



main types of forest schools have been identified: the ‘classic’ model and the ‘integrated’ model (Schenetti et al. 2015:41).

In the ‘classic’ model, children spend the vast majority of their time outdoors, in a designated area, mainly during the morning. The peculiarity of this type of school is that indoor facilities are constituted by shelters or tents that are usually on site and are used mainly for storage purposes or by the children when the weather becomes too extreme (Schenetti et al. 2015:42-43).

The ‘integrated’ model is actually a ‘traditional’ nursery school, with a fully-equipped building, but it provides space and time for the children to engage in outdoor activities for part of the time (for example in the morning); during the rest of the school day, the children stay indoors (for example in the afternoon). This model allows for a lot of flexibility in terms of how much and how often the indoor and outdoor spaces are used (Schenetti et al. 2015:43).

Finally, there are ‘traditional’ schools that organise outdoor projects on a regular basis. This may include programming a few ‘forest weeks’ during the year, or scheduling a ‘forest school day’ every week, depending on what the surrounding territory can offer to the school (Schenetti et al. 2015:44).<sup>2</sup>

Therefore, it would seem that, in a way, each forest school is unique. However, even though forest schools are peculiar in terms of setting, equipment, and pedagogical underpinning, it can be said that the majority share certain theoretical grounds, which are presented in the following sections.

---

<sup>2</sup> ‘Outdoor learning can be achieved in many ways, with many schools developing their school grounds, outdoor play areas, as well as offsite day trips, and residential field trips (e.g. adventure activities, field studies council residential centres, etc.)’ (Harris 2017:274).

## **2. OUTDOOR EDUCATION: A MELTING POT OF THEORIES**

### **2.1. Introduction**

Outdoor education is informed by a variety of pedagogical theories. Some of these theories are inspired by mainstream pedagogy; others are somewhat akin to approaches in other educational alternatives; finally, some are peculiar to outdoor education settings. The pedagogical approach that informs forest schools ‘does not exist in a vacuum, but in the context of other thoughts and ideas about working with young children’ (Knight 2009:61). This section will explore the pedagogical principles that underpin this approach to education and learning, as well as related theories that inform and influence it.

### **2.2. The influence of some classic theories of pedagogy and child development**

Some ‘classic’ pedagogical theories need to be examined in order to appreciate the complexity of the pedagogical matrix of forest schools. This matrix includes Piaget, Vygotsky and Bruner, who share a constructivist view of learning in childhood.

#### **2.2.1. Piaget’s theory**

The Swiss psychologist Jean Piaget (1896-1980) is a key figure in the field of developmental psychology. He is considered a pioneer of the ‘cognitive revolution’ in the psychological analysis of learning (Whitebread 2012:117), as well as ‘the father of constructivism’, or the theory according to which children construct their own knowledge of the world in an active process of discovery and understanding (Whitebread 2012:116). Piaget developed an interest in psychology after having completed university studies in zoology and philosophy. His training in biology certainly influenced his studies in the psychological field.<sup>3</sup> He considered intelligence to be a basic life function that was useful to the adaptation of organisms to the environment (Pinter 2011:8).

---

<sup>3</sup> A brief biography of Piaget can be found at: <<https://www.britannica.com/biography/Jean-Piaget>>. Accessed 28/06/2020.

In his study of the development of the human brain, Piaget rejected both the innatist model (according to which the mind is not a ‘blank slate’, but rather has inbuilt knowledge) and the behaviourist model (according to which organisms ‘react’ or respond to environmental stimuli). Instead, Piaget recognised the *active role* of the child in his or her understanding of reality; he devised an *organismic* theory based on the following assumptions:

- a) A person’s development can be understood in the context of the historical evolution of the species, at the top of which humans stand, for biological and psychological reasons;
- b) The organism is active and can be modified as a result of the interaction with the environment;
- c) A person’s development consists in the transformation of structures that are not innate, but that are built or constructed thanks to individual activity.

Therefore, Piaget postulated the presence of *variable structures* and *invariant functions*: according to him, a comparison of the intelligence of a child with that of an adult shows that these two individuals have different structures, although the way such structures work on a mental level is similar. This theory enabled Piaget to explain how different forms of intelligence develop, following a sense of biological progression (Camaioni & Di Blasio 2002/2007, pp. 89-90).

An understanding of learning as an active process is also included in the pedagogy of forest schools.

### *i. Piaget’s four stages of development*

Piaget observed children (including his own three) and proposed a variety of tests to understand how children reacted to potential problems. Based on his findings, he argued that there is a ‘natural timetable’ according to which children develop their ability to think. He identified four stages that necessarily follow each other, although the time at which each child enters a certain stage is not fixed.

1. **Sensorimotor stage (birth – 2 years)**: during this stage the child begins to master his or her physical reflexes and begins to use them in an active and increasingly purposeful

way. Therefore, the child understands the world thanks to what he or she can do with the senses and external objects.

2. **Preoperational stage (2–6/7 years):** in this stage the child creates mental representations of objects and can classify them in groups. He or she can also begin to understand that there are various points of view and that they can differ from each other. In this period, children manipulate the environment and play symbolically, which marks a step further compared to the previous, object-driven/dependent stage.
3. **Concrete operational (6/7 – 11/12 years):** in this stage, the child begins to use logic and can complete more complex mental actions, such as addition, subtractions, and so on.
4. **Formal operational (12 – adulthood):** in this stage, the individual can understand logical thought, potential implications of his/her and other people’s thinking, and use abstraction to make hypotheses.

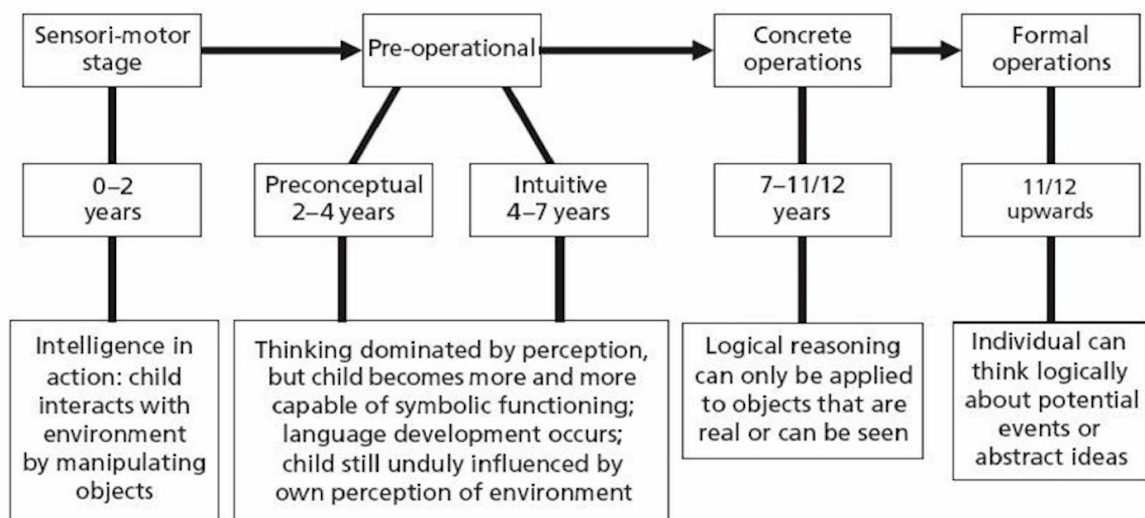


Figure 2: Piaget’s four stages of cognitive development. Adapted from Cohen 2013:39

Therefore, it can be said that Piaget described children’s development in terms of shortages/deficiencies and gains, proposing a somewhat negative picture of the early stages of childhood development (Pinter 2011:9).

### *ii. Critiques to Piaget’s theory*

Although Piaget's theory was not criticised for about 50 years, things began to change in the 1970s, when experiments conducted to verify his claims showed less than straightforward results (Cohen 2013:48). Since then, Piaget's stage theory has been criticised for a variety of reasons. Firstly, for being overly concerned with logical thought. Secondly, for proposing experiments with insufficiently clear instructions, which may have affected how the children responded. Thirdly, for ignoring or minimising the importance of the social and emotional development of the child. Finally, because he believed that children are born with skills and cannot be taught a skill if they do not 'have' it already (Cohen 2013:49).

In particular, Piaget's view of the *preoperational stage* has been shown to have underestimated children's mental abilities, while his opinion of the *formal operational stage* has been shown to have overestimated the abilities of adolescents to a certain extent (Pinter 2011:12).

Furthermore, some thinkers have proposed that children do *not* develop in universally valid stages, but in more individual and unexpected ways. For example, Siegler (1996) notes that his own children did not conform to theoretical descriptions, and on the contrary showed great variability of thinking (Siegler 1996:3). Thus, he concludes that if his family is 'representative', it is likely that the thinking of children is a lot more variable than theories of cognitive development suggest (Siegler 1996:4).

Finally, it should be noted that Piaget believed that young children's thinking is characterised by *egocentrism* – in other words, an inability to consider or appreciate perspectives different from their own. We will see that other thinkers disagreed with this view.

### **2.2.2. Vygotsky's theory**

Lev Semyonovich Vygotsky (1896-1934) was a Soviet psychologist who studied linguistics and philosophy, as well as psychological research.<sup>4</sup> Compared to Piaget, Vygotsky placed greater emphasis on the social nature of learning.

---

<sup>4</sup> A brief biography of Vygotsky can be found at: <<https://www.britannica.com/biography/L-S-Vygotsky>>. Accessed 28/06/2020.

After having studied children in an attempt to identify a ‘genetic’ or developmental psychology (1924-1934), Vygotsky argued that children develop as *social* creatures. According to Vygotsky, knowledge is a socially constructed product and learning is a social activity (Pinter 2011:16). He proposed the ‘law of cultural development’ as an explanation of how adults and children interact and construct new knowledge together: this knowledge, created between minds (or ‘inter-mentally’) is then internalised by the children for their own understanding (on an ‘intra-mental’ level) (Pinter 2011:16).

In fact, ‘[e]very function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first between people (interpsychological) and then inside the child (intrapychological)’ (Vygotsky 1978:57).

### *i. The Zone of Proximal Development*

Vygotsky defined the ‘space’ between the inter-mental and the intra-mental stages as a *zone of proximal development* (ZPD): an area in which children can develop, with some external help or assistance on the part of a parent or teacher. Play creates the ideal conditions for children to improve their skills in a ZPD (Cohen 2013:60).<sup>5</sup> In Vygotsky’s view, there is a gap between any student’s ‘[...] actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers.’ (Vygotsky 1978:86).

Vygotsky also focussed on language: he interpreted the babbling of infants as a social/emotional signal – contrarily to Piaget, who believed that language was the outcome of the logic and cognitive progress of the child (Cohen 2013:61). He identified a turning point at which language begins to be used for symbolic representation. He hypothesised the existence of four main phases in the development of language and thought. The first three phases are ‘*primitive*’: intelligence is non-verbal and the sounds produced by the child are pre-intellectual. Secondly, there is a stage of *practical intelligence*, when children use objects to help them understand abstraction (e.g. counting on hand fingers). Finally, there is the stage of *external symbolic representation*.

---

<sup>5</sup> On the importance of play for child development, see Gray 2013 (REFERENCES).

## *ii. Vygotsky about Piaget*

Although Vygotsky praised Piaget's 'revolutionary' clinical methods, he also criticised Piaget's view of the child's as 'egocentric' (Vygotsky 1934/1986:27), stating that the major flaw in Piaget's work is the failure to see that 'it is reality and *the relation between a child and reality* that are *missed in his theory*' (Vygotsky 1934/1986:51-52, italics added). Thus, Vygotsky's main criticism of Piaget's work is related to the Swiss theorist's failure to more closely take into account the child's social environment: according to the Russian psychologist, '[a]ll the higher functions originate as actual *relationships* between individuals' (Vygotsky 1978:57, italics added).

## *iii. The legacy of Vygotsky's intuitions*

Wood, Bruner and Ross (1976) were inspired by Vygotsky to propose the concept of 'scaffolding'. According to them,

Discussions of problem solving or skill acquisition are usually premised on the *assumption that the learner is alone and unassisted*. If the *social context* is taken into account, it is usually treated as an instance of *modelling and imitation*. But *the intervention of a tutor* [...] involves a kind of "*scaffolding*" process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts. (Wood, Bruner & Ross 1976:90, italics added)

Thus, the adult controls the elements of a task that are too difficult for the learner to manage alone, and – in an ideal situation – enables the learner to develop task competence (ibid.).

The notions of ZPD and of scaffolding have been particularly influential in the field of education, including the field of language teaching – in fact, the metaphor of scaffolding has been used 'more broadly to describe the nature of assisted performance in first and second language pedagogical contexts' (Gibbons 2013:563).

Moreover, ZPD and scaffolding are useful concepts in forest school pedagogy, where children are generally allowed to interact and play with older and younger peers, and can therefore help each other learn.

### 2.2.3. Bruner's theory

Another constructivist theorist was Jerome Seymour Bruner (1915-2016), a psychologist and educator from the United States of America.<sup>6</sup> He maintains that learners *construct* their knowledge by *discovering* rules and patterns for themselves, based on their experience.

In Bruner's view, a child's intellectual development is not a 'clockwork sequence of events'; rather, it is the product of an interaction with the environment (Bruner 1960:39). Therefore, it is advisable to avoid slavishly following the supposed stages of cognitive development, in order to expose the child to problems that may encourage him or her to move on to the following developmental stage (Bruner 1960:39). The main difficulty for the educator or teacher, then, is to find the 'medium questions' that are not too easy, nor too difficult, but are challenging enough to push the learner forward.<sup>7</sup>

In fact, in Bruner's opinion, every stage of child development corresponds to a peculiar understanding of the self and vision of the world (Bruner 1960:33). Thus, Bruner mentions how the work of Piaget and others conceptualises development in terms of stages in the child's intellectual development (Bruner 1960:34), in order to argue that children need to be helped to progress from 'concrete' to 'abstract' thinking as they grow older and more capable of handling complex concepts (Bruner 1960:38). He states that explanations to children should not be too 'distant from the children's manner of thinking', lest they be useless (Bruner 1960:38).

#### *i. Bruner's three modes of representation*

Bruner suggests that children's development of thinking processes goes through three stages or modes of representation:

1. *enactive representation* (action-based): learning is 'encoded' through physical action;
2. *iconic representation* (image-based): learning happens by means of sensory stimuli (visual, auditory, tactile, olfactory);

---

<sup>6</sup> A brief biography of Bruner can be found at: <<https://www.britannica.com/biography/Jerome-Bruner>>. Accessed 28/06/2020.

<sup>7</sup> This notion seems closely related to the concept of the Zone of Proximal Development mentioned above.



3. *symbolic representation* (language-based): learning happens thanks to language and other symbolic systems, such as numbers and music.

(Camaioni & Di Blasio 2002/2007:108-109).

Learning can be promoted if the material presented to the learner follows this progression. This entails that teachers should act as *facilitators* of the learning process.

It may be argued that the outdoor environment in which forest schools are set offers children ample opportunities for the development of the three modes of representation identified by Bruner.

### *ii. The spiral curriculum*

Bruner also proposes the concept of ‘spiral curriculum’ – a curriculum which is based on the fundamental principles or workings of the subject considered, and that, as it develops, ‘should revisit these basic ideas repeatedly, building upon them until the student has grasped the full formal apparatus that goes with them’ (Bruner 1960:13).<sup>8</sup> He states that the ‘often unconscious nature of learning structures is perhaps best illustrated in learning one’s native language’ (Bruner 1960:8): in his view, once the child has grasped the structure of sentences, he or she can generate endless combinations based on the initial model, incorporating new meaning (Bruner 1960:8).<sup>9</sup>

According to Bruner, therefore, children can learn about any subject, provided that the conditions are ideal for the particular stage of development of that child. He suggests that in order to ‘learn to learn’, children should learn ‘structure’, i.e. how certain basic principles or rules can be applied, with necessary modifications or adjustments, to other contexts (Bruner 1960:7). He argues that because ‘any subject can be taught effectively in some intellectually honest form to any child at any stage of development’ (Bruner 1960:33), by postponing the

---

<sup>8</sup> In *The Process of Education* (1960) Bruner describes a shift in education that in the previous years had seen scholars, academics, educators and teachers study novel ways to design curricula and test new teaching methods (Bruner 1960:xviii).

<sup>9</sup> This notion echoes that of Noam Chomsky, who famously used the sentence ‘Colourless green ideas sleep furiously’ to prove that sentences can be grammatically correct, even when they are nonsensical (Chomsky 1957, see REFERENCES).

teaching of certain subjects because they are considered to be too difficult, schools may be wasting ‘precious years’ (Bruner 1960:12).

#### **2.2.4. Dewey’s theory**

John Dewey (1859-1952) was a philosopher and educator from the United States of America. Among other things, he became the leader of the ‘progressive movement in education’ in the USA. One of the main aims of this movement was to educate ‘the whole child’, taking into account physical, intellectual and emotional development.<sup>10</sup>

Dewey believed that the body and the mind are interdependent and that the environment has an influence on the learner. As such, he stated that

The Teacher and the book are no longer the only instructors; the hands, the eyes, the ears, in fact *the whole body*, become sources of information, while teacher and textbook become respectively the starter and the tester. No book or map is a substitute for *personal experience*; they cannot take the place of the actual journey. (Dewey & Dewey 1915:74, italics added)

Forest schools refer to Dewey’s emphasis on the importance of experience in education; as Dewey stated, he believed ‘[...] that education must be conceived as *a continuing reconstruction of experience*; that the process and the goal of education are one and the same thing’ (Dewey 1897, Article III, italics added).

### **2.3. Similar approaches in other educational alternatives**

Because forest schools are open to a variety of approaches to education, it is necessary to mention at least some of the ones most commonly referred to, such as the pedagogical theories of Maria Montessori and Rudolf Steiner, and the Reggio Emilia Approach.

#### **2.3.1. Maria Montessori**

---

<sup>10</sup> A brief biography of Dewey can be found at: <<https://www.britannica.com/biography/John-Dewey>>. Accessed 31/12/2020.

Maria Montessori (1870-1952) was an Italian educator who has been and still is deeply influential.<sup>11</sup> Montessori was the first woman to graduate in medicine from the University of Rome (1896) and she developed an interest in children with disabilities. She devised a series of methods to support the educational needs of such children, and eventually (1907) she opened the ‘Casa dei Bambini’ (or ‘Children’s House’), which was a preschool for children who lived in a poor neighbourhood in Rome. Subsequently a great number of ‘Montessori’ schools were opened, and Montessori herself became a renowned figure in the field of education, travelling around the world to lecture, write and train teachers.

Montessori strove to offer children opportunities to use a variety of materials with a hands-on approach; furthermore, she placed great value on the child’s individuality, and favoured individual work over cooperative activities. At the same time, group activities were encouraged at routine times like during lunch, when children would collaborate to help prepare the tables for the meal. Similarly, in forest schools today children are often encouraged to contribute to meals by collecting their dishes and silverware at mealtimes.

‘Self-education’ is a fundamental point in Montessori’s view of education. Montessori believed that children have great creative potential, that they are naturally willing to learn, and that each child should be treated as an individual. Among other things, the Montessori approach does not entail the use of homework, tests, or grades. Rather, teachers carry out assessment by observing the students and collecting data, and also by examining the students’ portfolios (Christle 2017). Forest schools also avoid testing and forest school practitioners use observation as a regular tool for assessment and planning.

One of the main connections between Montessori’s guidelines and forest schools can be found in Montessori’s celebration of the beneficial effects of nature. According to her:

In our time and in the civilized environment of our society, children [...] live very far distant from nature, and have few opportunities of entering into intimate contact with it or of having direct experience with it. (Montessori 1948:122)

---

<sup>11</sup> A brief biography of Montessori can be found at: <<https://www.britannica.com/biography/Maria-Montessori>>. Accessed 06/08/2020.

She therefore recommended the following:

Set the children free, let them have fair play, let them run out when it is raining, take off their shoes when they find pools of water, and when the grass of the meadows is damp with dew let them run about with bare feet and trample on it; let them rest quietly when the tree invites them to sleep in its shade; let them shout and laugh when the sun wakes them up in the morning, as it wakes up every other living creature which divides its day between waking and sleeping. (Montessori 1948:125)

Nowadays numerous ‘Montessori’ schools exist, both on a private and public basis, and variations of the ‘original’ formula have been devised in order to adapt to different requirements.

### **2.3.2. Rudolf Steiner**

The Austrian educator Rudolf Steiner (1861-1925) opened his first school in Stuttgart (Germany) in 1919, and a number of similar schools opened in the following 20 years around Europe and even in the United States. After World War II, so-called ‘Waldorf’ schools gained popularity due to their pedagogy, which focussed on a well-rounded development of the children – it was ‘child-centred and designed to foster the total personality without a one-sided emphasis on the intellect’ (Uhrmacher 1995:392).

Steiner proposed that children’s learning tendencies at different ages should be supported, so that, for example, they could initially learn through imitation of everyday activities (from birth to the age of 6 or 7 years), then learn thanks to music, movement and visual art (until 12 or 13 years), and finally develop abstract thought, ethical thinking, social responsibility.<sup>12</sup> Generally speaking, in Waldorf schools the curriculum moves from an emphasis on imaginative to objective material, and from the organic to the inorganic (Uhrmacher 1995:395).

### **2.3.3. The notion of emergent curriculum and the Reggio Emilia Approach**

---

<sup>12</sup> Some information about the Waldorf approach can be found at: <<https://www.britannica.com/topic/Waldorf-school>>. Accessed 18/08/2020.

As Bruner says, ‘The construction of curricula proceeds in a world where changing social, cultural and political conditions continually alter the surroundings and the goals of schools and their students’ (Bruner 1960:8). Thus, what can be said about the forest school curriculum? How is it planned, what informs it, what does it contain, how does it develop?

It may be said that forest schools generally follow an ‘emergent curriculum’ – an ever-shifting plan that is based on the children’s interests and actively responds to their mutations. In fact, although forest school teachers do plan the sessions in order to help children develop certain skills, they most often offer support and ideas *if* and *when* required (Knight 2009:20, italics added).

The emergent curriculum is inspired by the Reggio Emilia Approach, a 1960s preschool model created by Loris Malaguzzi in Reggio Emilia, Italy, which by the 1990s had become successful world-wide (Jones 2012:67). The Reggio Emilia approach ‘is an educational philosophy based on the image of a child with strong potentialities for development and a subject with rights, who learns through the hundred languages belonging to all human beings, and grows in relations with others’ (Reggio Children S.r.l. 2020).

The framework of the Reggio Emilia Approach consists in four main principles:

1. *The emergent curriculum*: the curriculum develops around the children’s interests, in an ongoing process of adaptation based on the observation of the children;
2. *In-depth projects*: teachers monitor and advise children as the latter embark on long-term projects (which can last from a week to a school year), based on their interests;
3. *Representational development*: new concepts and ideas are presented to the children in multiple ways, via multiple means of representation, in order to cater to a variety of approaches (cfr. Howard Gardner’s multiple intelligence theory).
4. *Collaboration*: children are encouraged to work in groups and to collaborate with each other, so that they can improve their interpersonal skills as well as their own individuality and cognitive development.

(Stoudt 2020)

The aim of the emergent curriculum is ‘to respond to every child’s interests’, so it is ‘co-constructed by the children and the adults and the environment itself’ (Jones 2012:67). In fact, teachers are firstly observers, and secondly guides who can offer support or resources. Teachers

are also ‘learners’: they learn with the children and reflect upon their teaching practice, in a constant strive for professional and personal development.

This does *not* mean that there is *no* curriculum. On the contrary, an emergent curriculum ‘requires that teachers actively seek out and chase the interests of the children’ (Biermeier 2015:73). As such, it is ‘a perspective that turns structured curriculum, with predetermined outcomes, on its head’ (Biermeier 2015:74). Flexibility, therefore, is a key element in emergent curriculums and it is also central to curriculum planning in forest school approaches.

## **2.4. Outdoor education’s own pedagogy**

In addition to being influenced by the theories described above, forest schools are informed by their own pedagogical philosophies, which are explored below.

### **2.4.1. The Outdoor Education Tree**

Priest (1986) proposed a visual depiction of the principles of outdoor education. In his words,

[...] outdoor education is an experiential process of learning by doing, which takes place primarily through exposure to the out-of-doors. In outdoor education the emphasis for the subject of learning is placed on RELATIONSHIPS, relationships concerning people and natural resources (Priest 1986:13, emphasis in the original)

Priest explores six points which inform his notion of outdoor education, namely:

1. Outdoor education is a method for learning;
2. The learning process is experiential;
3. The learning takes place mainly (although not exclusively) in the outdoor setting;
4. The senses are engaged in experiential learning (sight, sound, taste, touch, smell, intuition);
5. Learning is based upon interdisciplinary curriculum matter;
6. Learning is a matter of many relationships, in particular: the interpersonal, the intrapersonal, the ecosystemic, the ekistic.<sup>13</sup>

---

<sup>13</sup> The noun ‘ekistics’ can be defined as the ‘science of human settlements’ (<<https://www.britannica.com/topic/ekistics>>, accessed 02/01/2021).

(Priest 1986:13-14)

Thus, Priest conceptualised outdoor education as a tree whose branches represent adventure and environmental education.

#### The Outdoor Setting

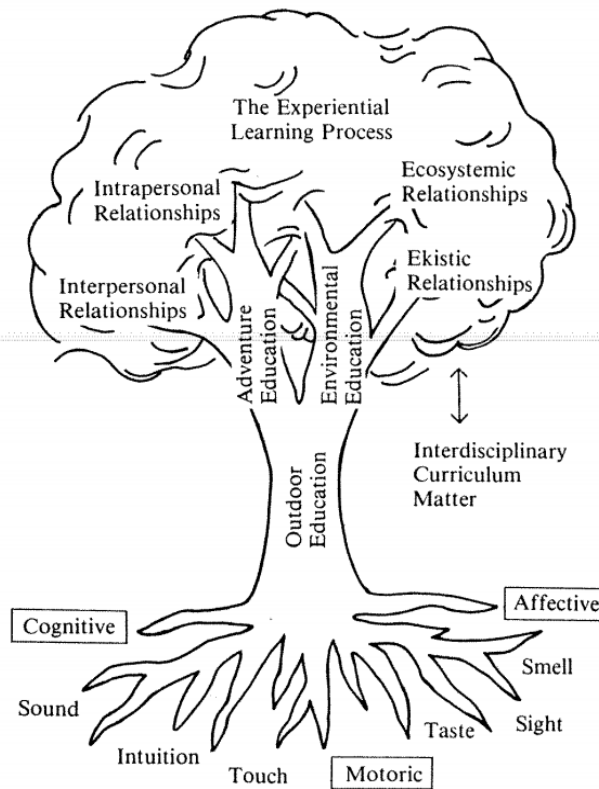


Figure 3: the Outdoor Education Tree, from Priest 1986:15

The interdisciplinary curriculum is 'in the air', while the leaves represent the numerous facets of the experiential learning process. Thus, the interaction between the 'air' and the 'leaves' represents 'an exchange of information [that] occurs frequently between the process and the curriculum' (Priest 1986:14). The soil represents the senses in which the tree is rooted. Ultimately,

Outdoor education [...] is the blending of both adventure and environment approaches into a program of activities or experiences. Through exposure to the outdoor setting, individuals learn about their relationship between the various

concepts of the natural ecosystems, and personal relationships with others and with their inner Self. (Priest 1986:15)

#### **2.4.2. Learner-centredness and self-directed learning**

Forest school practitioners value learner-centeredness and self-directed learning. O'Brien (2009) notes that the Forest School approach 'focuses on *learning by doing*, with teachers *posing questions* to the children while they are engaged in carrying out activities in order *to promote child reasoning*' (O'Brien 2009:47, emphasis added). This encourages children to develop problem-solving skills when they encounter a problem or make a mistake and eventually gain greater independence (ibid). The learning that happens at forest schools can be understood as a constructivist approach, in that children 'build' their own meaning and understanding thanks to the activities they engage in (O'Brien 2009:54).

As for self-directed learning, forest school practitioners believe that children do not need to *be educated* – rather, they need to be provided with opportunities that enable them to *educate themselves*. Gray (2015) argues children do this naturally, following an innate, 'biological drive'. In his view, *education is the child's responsibility* and children will shoulder that responsibility *if* they understand that it is, in fact, their own.

Gray notes that the following conditions optimise children's self-education:

1. The clear understanding that education is children's responsibility;
2. Unlimited opportunity to play, explore, & pursue own interests;
3. Opportunity to play with the tools of the culture;
4. Access to a variety of caring adults, who are helpers, not judges;
5. Free age mixing among children and adolescents;
6. Immersion in a stable, moral, democratic community.

(Gray 2015)

Gray observes that *none* of these characteristics exists in most current models of education. Thus, he believes this begs the question: why are we continuing to force people to learn in such unnatural ways? Why should standardisation even be conceivable?



In order to prove his point, Gray analyses the experience of the Sudbury Valley School in Framingham (Massachusetts), USA. This institution was set up in 1968 and is unique in its organisation, not least because it *lacks* a curriculum. In fact,

The basic premise of the school's educational philosophy is that each person is responsible for his or her own education. The school establishes no curriculum, gives no tests, and does not rank or in other ways to evaluate students. (Gray 2013:91)

This school is not unique in its kind, although its approach is still relatively uncommon. In fact, it has been replicated by the Tallgrass Sudbury School, in Illinois (USA).<sup>14</sup>

### **2.4.3. The importance of free play**

Forest school practitioners understand that children develop through play. This is why in forest schools 'the learning is play-based and, as far as possible, child initiated and child led' (Knight 2009:17).<sup>15</sup> Educators in forest schools are able to recognise and understand the different types of free play in order to support it and sustain it when necessary (Negro 2019:81). Moreover, 'free play' has more to do with 'how' than with 'what' the children do: it is a 'playful' attitude (Negro 2019:80). In his book *Free to Learn* (2013) Gray argues that

We have forgotten that children are designed by nature to learn through self-directed play and exploration, and so, more and more, we deprive them of freedom to learn, subjecting them instead to the tedious and painfully slow learning methods devised by those who run the schools. (Gray 2013:65)

According to Gray, play is 'an expression of freedom' (Gray 2013:141), which involves a set of characteristics: it is self-chosen, self-directed, motivated by means more than ends, guided

---

<sup>14</sup> Further information about the school may be found at: <<https://www.tallgrassudbury.org/>> (accessed 09/01/2021).

<sup>15</sup> It is important not to confuse free play with the activities that adults propose to children in order to make them reach pre-established goals. In fact, while the latter can be useful in certain situations, it must be labelled as an adult-lead activity.

by mental rules, imaginative, and it is conducted in an alert, active, but non-stressed frame of mind (Gray 2013:141-153).

Gray is not the only thinker who has emphasised the importance of free play for children's development and well-being. Froebel promoted outdoor play as key to learning (Knight 2009: pp. 62 ca). Piaget focussed on how play enables children to develop their mental representations and abstract thinking skills (Butler 2019:307), while Vygotsky, with his 'social' perspective on learning, considered play as a crucial factor in development (Butler 2019:307). For the same reasons, Malaguzzi of the Reggio Emilia Approach valued free play over 'ritual play managed and controlled by adults' (Gandini 2011:8).

#### **2.4.4. Experiential learning**

The adoption of an emergent curriculum approach is an indication that, in forest schools, learning revolves around the natural 'flux' of the children's experience, and therefore is not dictated by adults (Negro 2019:21). On the contrary, learning in a forest school is truly experiential, and it happens in organic, natural ways, according to natural timings (Negro 2019:39). The pedagogy of forest schooling proposes an understanding of learning as something innate to the experience of the world and everyday life, and not as something that happens in a structured space, time or way, separated from an authentic life experience. For these reasons, speaking of 'education in a natural setting', 'natural environment' and 'contact with nature' is *not sufficient*: it perpetuates the Western vision of a dichotomy between humans and nature, understood as different, opposed entities (Negro 2019:47).

To this regard, in 2006 Cheryl Charles and Richard Louv founded the *Children & Nature Network* (<https://www.childrenandnature.org/>) as an attempt to reconnect people – and in particular, children – with Nature. Richard Louv is a journalist and book author who coined the term 'Nature-Deficit Disorder' and used it in his 2005 book, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. He proposed it as 'a description of the human costs of alienation from nature [...] as a way to talk about an urgent problem that many of us knew was growing, but had no language to describe [...]' (Charles 2015:10).

The concept of '*Nature-Deficit Disorder*' offers an explanation to a many of the challenging phenomena that have taken over childhood in the last thirty years, such as obesity, ADHD

(Attention Deficit Hyperactivity Disorder) and behavioural issues – ‘nature deficit disorder’ attributes a name to the disappearance of free outdoor play which has been experienced by the most recent generations of children (Negro 2019:54).

According to the forest school pedagogy, children need to experience the natural environment in order to satisfy their developmental needs. In fact, the natural environment is not ‘organised’ according to the needs of humans and the vision humans have of themselves, nor does it correspond to the organisational priorities of adults (Negro 2019:49). These characteristics make it the ideal setting for children to enjoy the free, unadulterated experience of being themselves.

#### **2.4.5. Gianfranco Zavalloni’s Manifesto of Children’s Rights**

Finally, with regard to children’s right to experiential learning, some Italian forest schools refer to Gianfranco Zavalloni’s Manifesto of Children’s Rights (Zavalloni 2003). Zavalloni was an Italian pedagogue who advocated children’s right to a ‘slow’ rhythm – in fact, he defined his views as ‘pedagogia della lumaca’, the Italian for ‘a pedagogy of the snail’. In his manifesto, Zavalloni proposed that children should be granted the following rights:

1. The right to be idle;
2. The right to get dirty;
3. The right to be exposed to a variety of smells;
4. The right to dialogue;
5. The right to be hands-on;
6. The right to ‘a good start’;
7. The right to the road;
8. The right to the wild;
9. The right to the sound of silence;
10. The right to seeing different shades of light and colour.

(Zavalloni 2003, translated from the original Italian)

The appreciation of Zavalloni’s Manifesto on the part of forest school leaders and educators in Italy shows how adaptable forest school approaches can be to the local environment and culture.

### 3. FOREST SCHOOLS AROUND THE WORLD

#### 3.1. Introduction

*'Contact with the outdoors is often limited for many children in modern society, and the vital experience of using the outdoors and being comfortable in nature is being lost.'*

(O'Brien & Murray 2006:5)

Since the 1970s many people have developed an awareness of the benefits of being outdoors. Thus, in recent years some parents have begun to look for opportunities for their children to lead an active lifestyle from their early years.

In the preface to the Italian book *Fuori: Suggestioni nell'incontro tra educazione e natura* (2015), edited by Monica Guerra, Charles argues that children need nature, and that an increasing number of people is beginning to recognise this need and is striving to re-establish the experience of nature in the lives of children. She claims there is a 'universal movement' to reconnect children to Nature – a movement which is *not* opposed to the use of modern technology, nor regards the past nostalgically. Rather, it is an attempt to redress the balance that enables children to play, learn and grow with Nature's being an integral part of their everyday life (Charles 2015:9).

Indeed, the interest in forest schools seems to have risen in recent years. Because a comprehensive list of all the types of forest schools possible in terms of type and location in the world is beyond the scope of this study, the following pages will provide a brief overview of the main options for forest schools, and of the current situation in some areas of the world, in order to illustrate the international popularity of this approach.<sup>16</sup>

---

<sup>16</sup> It should be noted that forest schools differ from country to country because of the cultural differences in which they were created. For example, in Scandinavian countries, cultural norms and attitudes of the general population towards the outdoor environment and practical aspects of outdoor living ensure that forest schools are 'more informally integrated into the general early years provision than most UK forest schools are currently able to be' (Knight 2009:5).

## 3.2. Forest schools around the world today

### 3.2.1. The UK

As of 2020, in the UK *Forest Kindergartens* or *Forest Schools* are grouped under the *Forest School Association*, or *FSA*.<sup>17</sup> The FSA explains that in the UK there is a ‘rich heritage of outdoor learning’, which dates back to the 19th century at the latest.<sup>18</sup> The early years educator and forest school practitioner Sarah Knight also describes the historical roots of forest schools in the UK, stating that ‘[b]efore the urbanisation of the nineteenth century it was not necessary to create formal links between education and the outdoor environment’ (Knight 2009:2).<sup>19</sup> Knight analyses the development of compulsory education in the UK after World War II and notes that playtime and outdoor physical activity at school was increasingly reduced, especially after the mid-1980s (Knight 2009:3). The FSA argues that the growth of ‘alternative’ models of education in the 1990s was a response to the introduction of the national curriculum and the movement towards outcome-centred (rather than process-centred) approaches that had occurred in the previous decades.<sup>20</sup>

In 1993, a group of nursery nurses at Bridgwater College, Somerset, took a trip to Denmark to observe the pre-school system and in particular to learn about forest schools.<sup>21</sup> They had noticed the importance that was to outdoor activities in educational settings in the Scandinavian and

---

<sup>17</sup> Further information about the FSA may be found at: <<https://www.forestschoollassociation.org>>.

<sup>18</sup> In fact, the FSA recognises the influence of Pestalozzi, the Scandinavian ‘friluftsliv’ culture, Steiner, the Romantic movement, Froebel, Montessori, as well as the Scouting movement (<https://www.forestschoollassociation.org/history-of-forest-school/>).

<sup>19</sup> Like Williams–Siegfredsen (2012), Knight observes that industrialisation effectively separated people from nature and the environment and this separation was challenged by educators and health professionals, such as Froebel and Pestalozzi (2009:2). Knight also mentions the Baden-Powell movement, which in the early twentieth century ‘aimed to re-engage [boys and girls] with the outdoor environment’ (Knight 2009:3). Robert Baden-Powell, 1st Baron Baden-Powell, was a British army officer and is well-known for having founded the Boy Scouts (1908) and co-founded the Girl Guides (1910).

<sup>20</sup> Similarly, O’Brien & Murray state that ‘The development of Forest School began in Britain in the mid-1990s; it is based on a Scandinavian idea that considers children’s contact with nature to be extremely important.’ (O’Brien & Murray 2006:7).

<sup>21</sup> These forest schools were defined as *skogsbørnehaven* and *naturbørnehaven*. *Børnehaven* is a translation of the German word *kindergarten*, while *skog* means ‘forest’ or ‘wood’. *Natur* is ‘nature’. The Swedish version is *skogsmulle*, while the Norwegian word *friluftsliv* – ‘open-air living’ (Knight 2009:4).

northern European countries, where ‘Forest School-type activities have developed as a normal part of their early years provision’ (Knight 2009:3). This trip prompted the nursery nurses at Bridgwater to develop a programme to train early years practitioners in outdoor learning. In 2002 the first national conference which formulated a UK definition of forest school was held.<sup>22</sup> In 2003, the Open College Network (OCN) qualification was developed by various training providers from England and Wales, with the support of the Forestry Commission in Wales.<sup>23</sup> By 2006, scholars noted that there was an increasing number of private forest schools in Britain, as well as ones supported by local education authorities (O’Brien & Murray 2006:7). In Scotland, too, forest schools have shown an exponential growth during the years. The Forestry Commission Scotland created a group of trained Forest School leaders between the years 2003 and 2005, and Forest Kindergarten is currently an alternative option for Early Years.<sup>24</sup>

Unlike forest schools in other countries (see, for example, Italy below), in the UK forest school cannot substitute for ‘regular’ school – instead, it functions as a periodic project that schools can become involved in.

---

<sup>22</sup> It was defined as ‘An inspirational process that offers children, young people and adults regular opportunities to achieve, develop confidence and self esteem through hands-on learning experiences in a local woodland environment’ (<https://www.forestschoollassociation.org/history-of-forest-school/>, accessed 19/08/2020).

<sup>23</sup> Further information about the history of the FSA may be found at: <https://www.forestschoollassociation.org/history-of-forest-school/>. Accessed 09/01/2021.

<sup>24</sup> Further information about this option may be found at: <https://www.owlscotland.org/local-options/forest-schools/>. Accessed 09/01/2021.



Figure 4: Map of Forest Schools in the UK. Accessed 22/08/2020 from:

<<https://www.forestschoollassociation.org/find-a-forest-school-provider/#!/directory/map>>

### 3.2.2. The Republic of Ireland

The Irish Forest School Association (IFSA) seems to share the British approach to forest school.<sup>25</sup> In fact, forest school is defined as ‘an innovative educational approach to outdoor play and learning’, further explained as follows:

[Forest school is] an opportunity for the same group of learners and leaders to spend a sustained period outdoors, once a week, in a wooded environment, ideally year round. A regular routine is followed that is learner-led and facilitated by trained leaders. Learning is holistic and closely related to developmental stage and regular curricular requirements. There must be a high ratio of leaders to learners, everyone

<sup>25</sup> Further information about the IFSA may be found at: <<https://irishforestschoollassociation.ie/whatisforestschool>>.

must be suitably dressed and a risk/benefit approach to health and safety is followed by all. (IFSA 2021)



Figure 5: Map of Forest Schools in Ireland. Accessed 20/11/2020 from:  
<<https://irishforestschoollassociation.ie/map/>>

### 3.2.3. Germany

According to Bruchner (2017:12) and Schenetti et al. (2015:33), the first modern *waldkindergarten* was founded in 1968 in Wiesbaden, in central western Germany. In 1996 the *Bundesarbeitskreis der Naturkindergarten in Deutschland* ('Federal Working Group of Nature and Forest Kindergartens') was founded and in 2000 the *Bundesverband der Natur-und Waldkindergärten* ('Federal Association of Nature and Forest Kindergartens in Germany') was established. As of 2017 it is estimated that in Germany there were more than 2,500 outdoor nursery schools (Bruchner 2017:12), the majority of which were private, although some benefitted from public support. The names of these organisations vary depending on the type of environment they are in: in addition to the *waldkindergarten* (outdoor kindergartens) model there is also the *strandkindergarten* (beach kindergartens) (Bruchner 2017:12). Moreover, there is a model called *Waldspielgruppe* (outdoor play group) that caters to children between one and three years of age (ibid.).



### 3.2.4. Austria and Switzerland

It is estimated that there are around 23 schools in Austria and 8 in Switzerland (Schenetti et al. 2015:35).

### 3.2.5. Spain

The first examples of outdoor education in Spain can be traced back to the *Escola de Bosc de Montjuïc* in Barcelona (1914) and the *Escuela Bosque de la Dehesa de la Villa* in Madrid (1918) (Bruchner 2017:15). Recent organisations include the *Iniciativa Bosquescuola* (2010) and the *Centro Bosquescuola Cerceda* (2015), as well as the *Basoeskola Project* (2017) (Bruchner 2017:14). As of 2020 there are at least 12 forest schools in Spain.<sup>26</sup>

### 3.2.6. Italy

One of the most well-known examples of forest schools in Italy is the *Asilo nel Bosco* in the countryside of Ostia Antica (Rome); it was founded in 2014 and hosts children aged 2–6 years of age. An overview of the development of forest schools in Italy can be found in Schenetti et al. 2015:38-41). As of 2017 there were over 40 nursery forest schools in Italy (Salvo 2017); in 2020 the estimated number was 100 (Casertano 2020:42).

The Italian examples of homeschooling and outdoor education seem to be more common in rural areas, in particular along the Apennines and in city suburbs in the regions of Lombardy and Piedmont (Rossi & Antonietti 2017:134). Depending on the situation and setting, such environments can be called ‘agri-asilo’ or ‘agrinido’ (‘countryside nursery/creche’), while the educators involved are sometimes called ‘agritate’ (‘countryside nannies’) (Rossi & Antonietti 2017:136). These can be defined as ‘educational communities’ (It. ‘comunità educanti’) (Rossi & Antonietti 2017:137). The woods plays different roles in the Waldkindergarten setting: chiefly, it is a place for exploration, free play, and learning (Antonietti 2017:54).

---

<sup>26</sup> Further information may be found at: <[https://ludus.org.es/es/projects?pedagogy\\_id=8](https://ludus.org.es/es/projects?pedagogy_id=8)> (accessed 22/08/2020).



Figure 6: a map of forest schools in Italy. Accessed 16/12/2020 from:

<<https://www.google.com/maps/d/u/0/viewer?mid=1HEk55gn2N4-qfrvHYk7V82qS6Ex-OWCs&ll=42.36312311872399%2C12.644573994882723&z=6>>

In the year 2020-2021, the university LUMSA (Libera Università Maria Ss. Assunta) in Rome offered the postgraduate course *Corso di perfezionamento in Outdoor Education* ('Training Course in Outdoor Education').<sup>27</sup> This seems to suggest that the interest in outdoor education is growing.

<sup>27</sup> Further information about the course may be found at: <[https://masterschool.lumsa.it/altri\\_corsi\\_formazione\\_outdoor\\_education](https://masterschool.lumsa.it/altri_corsi_formazione_outdoor_education)>.

### 3.2.7. The Nordic countries: Finland, Norway, Sweden and Denmark

In Finland the forest school model is called *metsäpäiväkodeissa* ('forest kindergarten'), while in Norway it is called *naturbarnehage* or *friluftsbarnhage* ('outdoor kindergarten'). In Sweden there are about 220 outdoor nursery schools, both private and public. They are called *I Ur och Skur* ('in rain or sunshine') schools. In 1892, the *Friluftsförbundet* (Swedish Outdoor Association) was founded (Bruchner 2017:12).<sup>28</sup> There are approximately 300 nursery schools in Denmark called *udeskole*, or 'outdoor schools' (Bruchner 2017:12).

### 3.2.8. North America: the USA and Canada

In the USA, forest schools are also known as 'forest kindergartens' or 'nature-based preschools' (Åkeson McGurk 2017:8). There are close to 100 forest schools in the USA.<sup>29</sup> The *American Forest Kindergarten Association* provides a map of the situation in the US.<sup>30</sup>

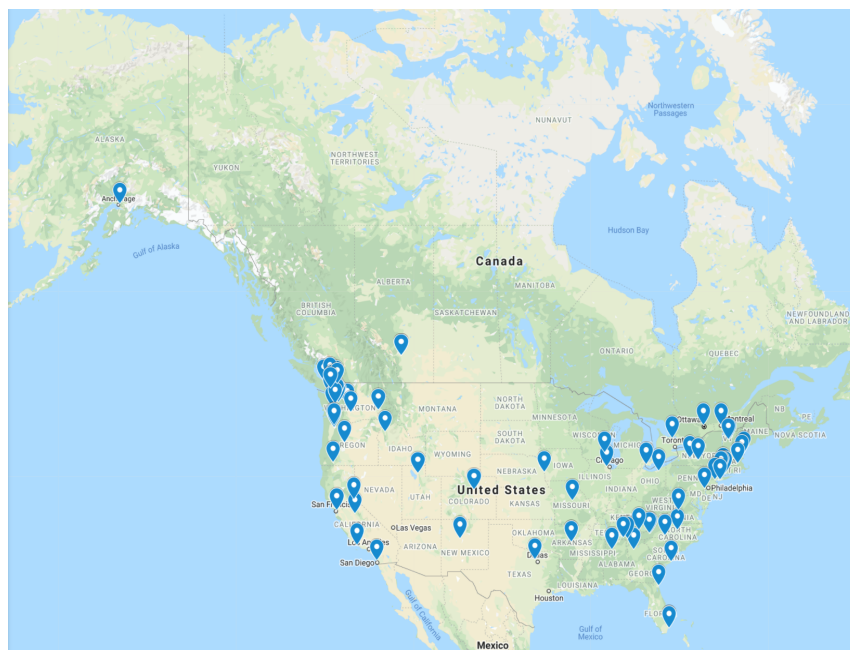


Figure 7: Map of Forest Schools in the US. Accessed 22/08/2020 from:

<<https://www.forestkindergartenassociation.org>>

<sup>28</sup> Further information about the Swedish Outdoor Association may be found at: <<https://www.friluftsförbundet.se/in-english>>.

<sup>29</sup> Further information may be found at: <<https://www.happyacresforestschool.com/history-of-forest-schools>>.

<sup>30</sup> Further information may be found at: <<https://www.forestkindergartenassociation.org>>.

In Canada, the *Child and Nature Alliance of Canada* is an association that promotes ‘meaningful connections and youth’.<sup>31</sup> It includes three major initiatives: Forest Schools Canada (FSC), the Ottawa Forest and Nature School, and the Natural Leader Alliance.

### **3.2.9. South Korea**

In 2011 the South Korean Ministry of Education started 35 forest kindergartens based on the German model (Bruchner 2017:12).

### **3.3. The 2020 COVID-19 pandemic: a surge of interest in outdoor education**

The 2020 COVID-19 pandemic seems to have brought about a surge of interest in the possibilities that outdoor education offers to teachers and students. A variety of online articles appear to frame outdoor education as a healthy alternative to indoor classroom learning.

Bellafante’s (2020) article on *The New York Times* ‘Schools Beat Earlier Plagues With Outdoor Classes. We Should, Too’ describes how in the early 1900s, two Rhode Island doctors attempted to slow down the spread of tuberculosis thanks to the creation of German-inspired open-air schoolrooms. Such classrooms had ceiling-high windows, which were kept open most of the time. By 1909, ‘[...] there were 65 open-air schools around the country either set up along the lines of the Providence model or simply held outside. In New York, the private schools Horace Mann conducted classes on the roof; another school in the city took shape on an abandoned ferry’ (Bellafante 2020). Bellafante suggests that, given the COVID-19 pandemic and the ensuing crisis of classroom-based learning, ‘Instead of rotating between live school and remote learning, children could rotate between indoor and outdoor work during the course of the day’, given that, although such a transition would involve ‘[...] challenges in terms of liability, curriculum flexibility and so on [...] the reality of losing a generation of students to the deficiencies of Zoom seems much more troubling’ (Bellafante 2020).

---

<sup>31</sup> Further information about the Child and Nature Alliance of Canada may be found at: <<https://childnature.ca/about>>. Accessed 22/08/2020.

Some articles published in the Spanish newspaper *El País* state that the demand for and offer of outdoor education settings rose with the COVID-19 pandemic, given that outdoor space can be seen as an ‘ally’ for a different way of returning to school in September (Lucas 2020, 1). In November 2020, Spain counted more than 40 outdoor schools with almost one thousand students (although only one school was officially approved by the government) (Lucas 2020, 2).

Similarly, Italian newspapers and websites have treated the subject of outdoor education in the context of the COVID-19 pandemic. Robertiello (2020) describes how a school near Milan spent the summer months in 2020 reorganising the outdoor garden to create a learning space inspired by the above-mentioned *Asilo nel Bosco* in Ostia Antica (Rome). Bellizzi (2020) and Vistilli (2020) describe how the mayor of the town of Biccari, in the southern region of Puglia, suggested that the town’s schools use a local national park for classes and activities, so that the children could start going to school again after months of lockdown. While these examples may not be classified as forest schools proper, but as modifications of ‘mainstream’ schools that ‘borrow’ the forest school setting, they nevertheless seem to show a newfound interest in the possibilities of outdoor education.

Finally, in an outdoor education course that the author of this paper participated in during the months of October, November and December 2020 in northern Italy, about 98% of the people involved in the course were nursery and primary school teachers in public schools, who were interested in setting up an outdoor education space on their school premises and in developing an outdoor education project for their schools. During the discussions among the participants, most of them mentioned the current COVID-19 crisis as a major motive for their interest in the implementation of outdoor practices.

## **4. FOREST SCHOOL RESEARCH AND CURRENT OPTIONS IN EARLY LANGUAGE EDUCATION**

### **4.1. Introduction**

As we have seen above, the German ‘Waldkindergarten’ model became particularly popular during the 1990s, although at the time there was a lack of specific or relevant academic and educational literature (Antonietti 2017:47). Moreover, most of the literature at the time was Danish or Swedish.

Further research has been conducted since then. The following pages provide an overview of some of the research that has been conducted thus far with regard to forest schools. The themes we shall focus on include two main areas of interest: theoretical aspects of interest to educators, and the supposed benefits of forest school environments on children’s development.

### **4.2. Some of the research conducted to date**

A relatively ‘early’ study conducted in English is by O’Brien & Murray (2006), who argued that the forest school setting can provide children with wonderful opportunities to develop a variety of skills. In this study, O’Brien & Murray participated in a project that involved two phases, one in Wales and one in England. They observed children of different ages and from different backgrounds in a range of schools, in order ‘to establish an appropriate methodology for evaluating Forest School and to use this to explore the impacts of Forest School in Wales and England’ (O’Brien & Murray 2006:10).<sup>32</sup>

O’Brien and Murray proposed that forest school is ‘an inspirational process that offers children, young people and adults regular opportunities to achieve, and develop confidence through hands-on learning in a woodland environment’ (O’Brien & Murray 2006:4).

---

<sup>32</sup> Their methodology was based on a ‘hypothesis, evidence and review’ cycle which involved three steps. Firstly, a storyboard – a participative exercise with the stakeholders (teachers, parents, or representatives of the local community) to establish the hypothesis for their forest school and the ways to collect data. Secondly, on-site data collection and analysis – using self-appraisal recording templates designed for that particular setting to record ‘field evidence’ of the changes in the children’s behaviour. Finally, a reflection poster – another participative exercise with the stakeholders to analyse the changes that may have taken place.

They identified the key features of the forest school experience as follows:

- the use of a woodland setting;
- a high ratio of adults to pupils;
- learning is linked to the National Curriculum and Foundation-Stage objectives;
- the freedom to explore using multiple senses;
- regular contact for the children with Forest School over a significant period of time.

(O'Brien & Murray 2006:4)

The authors of the study noted that '[t]he Forest School setting is adaptable and allows for a flexible approach to learning, which can accommodate a range of learning styles' (O'Brien & Murray 2006:7).

#### **4.2.1. Theoretical aspects of interest to educators**

##### ***i. Constructivist learning***

O'Brien (2009) notes that forest schools provide an excellent setting for constructivist learning. In fact, 'children construct understanding and meaning through the activities they undertake on their own and with others' (O'Brien 2009:54). Teachers support children by asking them questions that require them to reason. Thus, there is an emphasis on 'experimentation and problem solving' and children 'actively make meaning when they engage with mistakes and problems' (O'Brien 2009:47).

Antonietti (2018) notes that while planning in the learning environment might be deemed as antithetic to a vision that supports learner-centredness, the Waldkindergarten experience has been modified over the years to incorporate greater formality and structure of the teaching and learning experience. This, however, has not invalidated or undermined its core values (Antonietti 2018:361). Such values involve the promotion of creativity, exploration, and experimentation in a natural environment.

##### ***ii. Academic achievement (as compared to 'regular' kindergartens)***

Antonietti (2017) mentions some empirical research that has involved teachers (Gorges 2002, Häfner 2002, Hupperz 2004; in Antonietti 2017:47). Among these, Gorges (2002) conducted structured interviews with one parent of the children as well as the teachers of the first school year, around the middle of the first school year. The main research question was about whether the children in the forest kindergarten were *less* well prepared for school than in regular kindergartens. Positive behaviour was reported to be *above average*, as were the scores in literacy and mathematics. Although the overall positive assessment of the children from forest kindergartens does not lead to the conclusion that this result can be attributed to the forest kindergarten environment, it proves that, at least in this particular case, the forest kindergarten environment did not penalise the children in terms of preparation compared to regular kindergartens (Gorges 2002).

McCree et al. (2018) carried out a longitudinal mixed methods study which tracked 11 children (aged 5–7 on entry) from disadvantaged backgrounds. The children attended forest school and outdoor learning sessions every week, over the course of three years. The study shows that social free play outdoors and relationships supported the children’s social development and emotional wellbeing, which, together with specialist help and other interventions, contributed to having positive effects on academic development. According to the authors of the study, these outcomes raise ‘questions about interventions for young children with disadvantaged backgrounds’ (McCree et al. 2018:980).

#### **4.2.2. The benefits of forest school environments**

##### ***i. Self-esteem, social skills, knowledge and motivation***

O’Brien & Murray (2006) refer to an improvement in children’s social skills and self-esteem. They note that ‘[e]vidence from the three case studies showed that the time spent in Forest School allowed children who initially were not confident to work or play with others to identify apparently new skills that practitioners were not aware that they had’ (O’Brien & Murray 2006:29). The authors admit that the development of children’s social skills is difficult to assess, because such an assessment requires ‘a high degree of insight and intimate knowledge on the part of the practitioner in order to distinguish subtle differences in behaviour’ (O’Brien & Murray 2006:29). However, their study argues that changes in the children’s behaviour indicated that the forest school setting had a positive effect (O’Brien & Murray 2006:29).



O'Brien & Murray (2007) mention that forest schools have a variety of positive impacts, including cognitive ones (children gain an understanding of the natural environment), affective ones (children can gain an awareness of and appreciation for the natural environment and therefore challenge each other in respecting and protecting flora and fauna), as well as interpersonal ones (team work) and physical ones (improvements in balance and stamina) (O'Brien & Murray 2007:252).

Richardson (2014, further examined below) also emphasises the positive effects of the forest school environment on self-esteem.

### *ii. Language and communication*

O'Brien & Murray's (2006) study focused on six themes, the third of which was language and communication.<sup>33</sup> The results showed that children benefited from the woodland environment and experience in that they developed 'more sophisticated uses of both written and spoken language (vocabulary and syntax)', which was attributed to the variety and vividness/intensity of their 'visual and other sensory experiences' (O'Brien & Murray 2006:24). Thus, it was shown that children in forest school settings can develop their use of 'descriptive language', as well as that of 'natural spontaneous talk' (O'Brien & Murray 2006:30).

---

<sup>33</sup> The themes the authors focussed on were the following: 1. Confidence; 2. Social skills; 3. Language and communication; 4. Motivation and concentration; 5. Physical skills; 6. Knowledge and understanding. (O'Brien & Murray 2006:24).

**Features Forest School is a place where:**

- Practitioners plan activities and allow for opportunities that facilitate natural and spontaneous talk
- Children are encouraged to use all their senses to facilitate the learning process and to excite their imaginations
- There are more variable and unpredictable situations than in a classroom environment, e.g. the weather, found objects and observed natural phenomena, changes to the woodland environment

**Benefits As a result:**

- Children communicate their ideas to peers on practical issues and in the creation of imaginary play
- They are inspired to talk freely about Forest School back in the classroom and at home
- More descriptive language is used to describe (and try and make sense of) the unfamiliar environment they find around them, e.g. using 'slurpy, squelchy' to describe a muddy puddle

**Example behaviours This is often manifested by:**

- Children being better able to work co-operatively – as they are able to negotiate with others to achieve group tasks
- Children becoming more confident and feeling better able to communicate with peers and adults
- A developed use of language by children (verbally, and in mark-making and written work)

*Figure 8: box from O'Brien & Murray 2006:3*

Richardson (2014) analyses speech and language development in a forest school environment. The author notes that '*very little independent research exists as to the benefits of such an environment on speech and language development*' (Richardson 2014:abstract). Richardson selected a group of children in England and analysed their linguistic performance before and after an 8-week forest school programme. He discovered that while the children's speech and language skills did improve, the most notable achievement was a marked improvement in their self-esteem and sense of personal power (Richardson 2014:abstract). Richardson's study identifies the 'social element' of the forest school as the one which impacted the most 'both on speech and language and on self-esteem levels' (Richardson 2014:10). Furthermore, children showed great passion for what they were experiencing and this had an obvious impact on their social communication (Richardson 2014:10). While the study cannot ascertain to what extent the forest school experience was the only influential factor on these improvements (Richardson 2014:11), it suggests that the setting seems to be largely beneficial to the children. Finally, Richardson observes that the implications could further be researched 'by analysing outcomes for children who have English as an additional language or have special needs' (Richardson 2014:12), given that this study was limited to British children from white families who did not have special needs (Richardson 2014:12).

### *iii. Physical skills*

Fjørtoft (2004) studied the impact of playing in a natural outdoor environment (as opposed to a ‘traditional’ playground) on the development of motor skills in children. The study employed methods from landscape ecology, using a Geographic Information System (GIS) to track the localisation of the children’s play in both environments. It demonstrated that playing in the natural environment significantly improved the children’s motor fitness, balance and coordination, thereby indicating that the features of a landscape clearly influence the way children play and develop their skills.

Forestry Commission Scotland (2009) carried out research that indicates that forest schools can contribute to an improvement in public health, because it provides children with opportunities to engage in physical exercise and learn in physically active ways.

#### **4.2.3. Outdoor Learning in Europe**

O’Brien et al. (2011) offers an overview of the situation of outdoor learning in Europe as of 2011. It explains that the tradition of using the outdoors for learning purposes is widespread in Scandinavian countries such as Denmark and Norway and that Scandinavian studies have demonstrated the benefits that children gain from engaging in outdoor activities, including the development of physical skills, self-confidence, and happiness (e.g. Nilsson et al. 2011:355). In this review, the Scandinavian approach is somewhat contrasted to the British one, in which outdoor learning ‘has encompassed both nature oriented learning and adventure activities that are primarily undertaken outside of school hours’ (O’Brien et al. 2011:255-256).

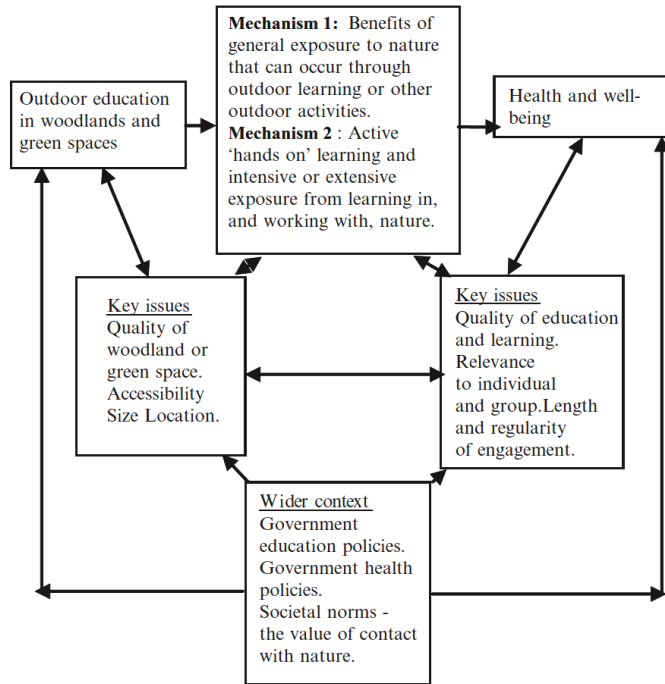


Figure 9: 'Potential ways in which outdoor education can impact on health and well-being', from O'Brien et al. 2011:345

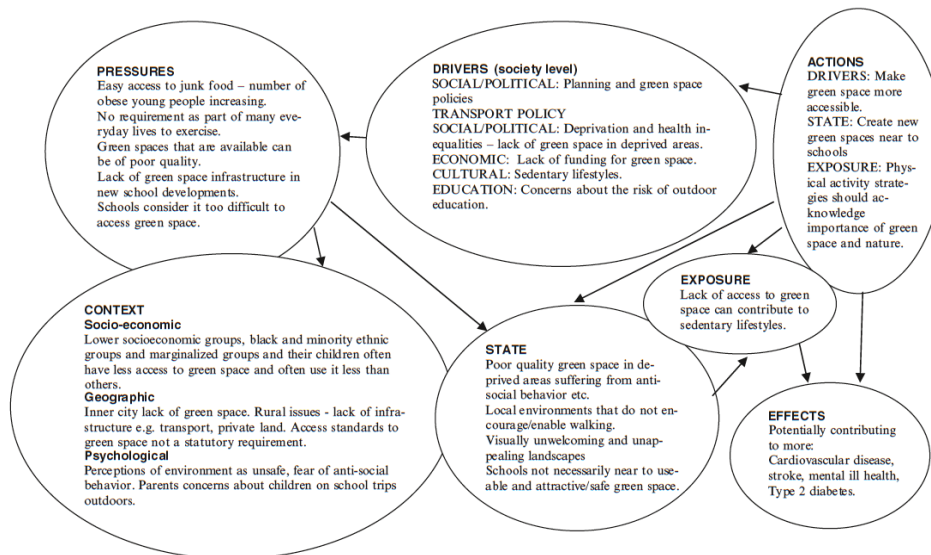


Fig. 12.2 Modified DPSEEA model: nature/green space and physical activity/education example

Figure 10: O'Brien et al. 2011:358

Figure 10 above is a modified version of the DPSEEA (Drivers, Pressures, State, Exposure, Effects, Actions) model, which is used by the World Health Organisation to design environment and health indicators in order to aid decision making. In this case, the model has been changed to show a nature and physical activity/education example.

Because the model indicates which actions could be taken to effect positive changes in the use of outdoor spaces for human welfare, O'Brien et al. (2011) believe that it 'could be relevant across a range of countries in western society that are increasingly urbanized, risk averse, sedentary, car oriented; with easy access to high fat food and pressures on existing green space for development' (O'Brien et al. 2011:357).

#### **4.2.4. A gap in the research: language learning in forest schools**

While this research project does not intend to offer a detailed review of the research that has been conducted to date in the field of outdoor education and forest schools, it is important to note that, so far, the author has not found any studies related to the learning of foreign languages in forest school settings. Thus, there seems to be a research gap both in the field of foreign language studies and in the field of forest school studies.

### **4.3. Language learning in early education: current options**

In preparation for an analysis of the forest school setting, the main options for language learning in early education which currently exist should be considered, and the most recent national and international language education policies should be taken into account. In this section we shall review some institutional developments in the context of the European Union (henceforth EU), as well as touch upon the situation in the Italian context. This analysis should enable us to make more informed hypotheses as to the possibilities of language learning in forest school contexts at a later stage.

#### **4.3.1. English and plurilingualism in Europe**

In the EU, English is the most studied language. Data from 2017 shows that English is studied by 97.3% of students in lower secondary education and by 79.4% in primary education (Eurydice 2017:13). This marks a rise compared to the previous ten years, especially in primary

education (a rise of 18.7% compared with 2005) (Eurydice 2017:13). English is followed in popularity by French, German and Spanish (Eurydice 2017:13). In half of the countries examined by the study, foreign languages in primary school are taught by generalist teachers, while specialised teachers are usually required in lower and upper secondary education (Eurydice 2017:15). In most European countries, the learning of the first foreign language is compulsory when students are between 6 and 8 years old (Eurydice 2017:29).

While it is true that English is considered of primary importance in the European countries, its popularity is relatively recent (having risen in the wake of World War II) and must be considered in a context in which *plurilingualism* is a key objective (Rixon 2019:494).<sup>34</sup> For this to be the main aim of language education, a shift or modification of the education paradigm is necessary. In fact, '[i]t is no longer seen as simply to achieve 'mastery' of one or two, or even three languages, each taken in isolation, with the 'ideal native speaker' as the ultimate model. Instead, the aim is to develop a linguistic repertory, in which all linguistic abilities have a place' (Council of Europe 2001:5).

#### **4.3.2. Italy and national guidelines: nursery school, primary school**

In 2012, the Italian Ministry for Education published some national guidelines for nursery and primary school (MIUR 2012). In the nursery school section, it mentions that children often live in '*plurilingual environments*' and therefore they can familiarise with an L2 or a FL, with the appropriate guidance and in '*natural situations*' – with dialogues and in everyday settings, in order to gain an awareness of different sounds, sound patterns (or tones) and meanings (MIUR 2012:27-28).

Scholars have noted that because this approach is suggested, but not regulated in any way, many schools have tried to provide their children with opportunities to be exposed to an L2 or FL by hiring 'external' teachers (often, but not always, native speakers of the language). However, this practice is not likely to be particularly beneficial, precisely because these external teachers can only be with the children a few hours a week. Moreover, external teachers often lack the

---

<sup>34</sup>*Plurilingualism* is an approach that enables people to build 'a communicative competence to which all knowledge and experience of language contributes and in which languages interrelate and interact' (Council of Europe 2001:5).

required pedagogical knowledge and experience to interact with the children in scientifically-backed ways (Favaro 2016:92).

A major problem that was identified by Renzo Titone in the early 1970s was that there were no *specific training options* for teachers to become specialised in the teaching of foreign languages to children (Titone 1973:15). We can see that this problem does not seem to have been completely overcome, given that the knowledge of a foreign language (in particular of English) at a CEFR B2 level was introduced in 2010 (see MIUR 2010:24).<sup>35</sup> Therefore, only the teachers who have graduated since 2010 can claim to have passed language exams at a B2 level, and since there have been few competitive examinations in the past twenty years (see Raimo 2020 for a summary), it is difficult to know how many of these recent graduates are currently teaching in public schools.

It would seem, therefore, that further steps need to be taken in order to ensure that teachers at a nursery school level are equipped with sound linguistic knowledge of the chosen foreign language (most commonly English), so that they can work with the children in pedagogically efficient ways (Favaro 2016:92-93).

#### **4.3.3. Immersion education**

Immersion in the foreign language is widely considered the most efficient way to introduce children to multiple languages (Pinter 2011:92). Immersion education seems particularly common in bilingual communities. For example, Canadian education policies ‘actively promote bilingual education’ (Berk 1989/2013:397). French-English bilingualism has increased since the mid-1990s (ibid.), at least in part thanks to Canada’s language immersion programmes, which, by treating school subjects in both English and French, enable children to develop a competence in both languages (ibid.). Among the benefits of immersion education, Winnefeld (2012:71) cites studies according to which learners ‘develop a higher competence in the foreign language’, although they do not necessarily achieve the same level of expertise

---

<sup>35</sup> The 2010 decree states the following: ‘Art. 3. Percorsi formativi: a) l’acquisizione delle competenze linguistiche di lingua inglese di livello B2 previste dal “Quadro comune europeo di riferimento per le lingue” adottato nel 1996 dal Consiglio d’Europa. La valutazione o la certificazione di dette competenze costituisce requisito essenziale per conseguire l’abilitazione’ (MIUR 2010:24).

in all four communicative skills (reading, listening, speaking and writing). A European example of diffused bilingualism can be found in the region of Catalonia (Spain), where the knowledge of Catalan was rekindled thanks to the implementation of Catalan-language immersion programmes (Strubell 1996).

#### **4.3.4. The private sector (e.g. language schools)**

As indicated in the sections about the EU and the Italian national policies above, it seems very likely that children will be encouraged or even required to start learning foreign languages (and in particular English) at increasingly younger ages. There is probably more than one reason for this. In fact, in addition to the demands of national and international education policies, it is plausible that parents might request that their children be introduced to the English language, given its popularity.

The English language publishing market seems to be capitalising on this high demand. In Italy in particular there is a wide range of private institutions offering English language courses that are supposed to supplement what the children are learning at school. To this regard, some scholars point to the need to do more research in the field of early language learning and teaching, in order to assess which goals or aims can actually be achieved (Rixon 2019:504).



## **PART TWO: THE RESEARCH PROJECT**

### **5.1. Introduction**

As the previous chapters have attempted to show, forest schools can be considered special learning environments because of their outdoor setting and of the variety of pedagogical theories that inform forest school approaches. In addition, the overview on forest school research has emphasised the lack of studies on the opportunities for foreign or language learning in forest school settings.

Therefore, given that the research undertaken so far in the field of language learning does not seem to include a focus on forest schools, this master's degree research project was designed to offer an initial view of what forest schools are doing and may do in order to introduce children to foreign languages, and collect information regarding the reasons why they may or may not do so, how it is possible to do it, and the outcomes and problems that can arise.<sup>36</sup>

### **5.2. How do forest schools compare to current options?**

It may be argued that because forest schools offer their own, unique learning environment, there may be a need for such learning environments to be studied as a somewhat different field from what has already been examined in academic literature. However, there currently seems to be no research into how opportunities for foreign/second language learning can be offered to children in forest schools. While we may expect forest schools to face at least some of the challenges faced by the learning environments mentioned above (such as the lack of qualified foreign language teachers or an insufficient frequency of exposure to the foreign language), in order to prove that this is the case, data from forest schools is needed.

### **5.3. The research project: objectives and research questions**

The overarching aim of this research is to understand whether it is possible to introduce children to foreign languages in a forest school setting, considering the peculiar nature of such settings as compared to more traditional learning environments. For this reason, it was decided that

---

<sup>36</sup> The research questions are presented in section 5.3. below.

forest schools should be addressed directly, in order to investigate to what extent their children are being exposed to foreign languages, the reasons behind each choice, as well as the challenges and possibilities related to language education in this setting.

In order to explore this issue, the following research questions were posed:

1. Why are foreign languages being/not being presented to the children?
2. How can foreign language learning be promoted in such settings?
3. What ‘outcomes’ can be observed, and what problems can arise?

#### **5.4. Participants**

In order for the researcher to understand what forest schools were doing, a number of forest schools and forest school associations (in Italy, Spain, Germany, the United Kingdom, the United States of America and Canada) were contacted via email. The email explained the aims of the research project and contained a link to an online questionnaire, along with an invitation to complete the questionnaire. The schools and associations that were contacted were selected on account of their online presence (i.e. how easy they were to contact online) and of the fact that all communication could be conducted in one of the languages spoken by the researcher and included in the questionnaire (English, Italian and Spanish).

The majority of the forest schools or forest school networks that were contacted failed to respond. It is possible that the current COVID-19 pandemic has made the management of everyday business more complex. Moreover, some schools seem to have closed due to the pandemic.

All of the forest school associations which were contacted in the UK, the USA and Canada failed to respond. In one case only, a British forest school network answered the request to fill in the questionnaire by stating that, in its opinion, the survey didn’t ‘fully understand the nature of forest school’ (see APPENDICES). The respondent explained that in the UK, forest school is a ‘small part’ of children’s education in a formal school, and is generally not ‘an education setting offering full time education in the UK’. Therefore, the questionnaire was considered too ‘difficult’ to answer.

On the other hand, the Italian and Spanish schools which participated in the survey did not seem to have any difficulty in answering the questions posed in the questionnaire. This might indicate that there are differences as to how forest schools are conceived and understood in different countries. In fact, while forest school in the UK is considered ‘a long-term process of frequent and regular sessions in a woodland or natural environment, rather than a one-off visit’ (<https://www.forestschoollassociation.org/full-principles-and-criteria-for-good-practice/>), in Italy and Spain the schools that were contacted were infant and/or primary schools that used an outdoor environment as their primary setting in everyday practice.

The final participants answered from Italy (regions or ‘regioni’ of Piedmont, Trentino-Alto Adige, Friuli-Venezia Giulia, Emilia-Romagna, Sicily, Sardinia) and Spain (autonomous regions or ‘comunidades autónomas’ of Valencia and Madrid).

Two responses (N4 and N7) might refer to the same school, because their names and geographical location seem to match. However, given that the information included in the questionnaire differ slightly and that both entries seemed useful, it was decided that both should be included and treated separately, and that the fact that such entries might refer to the same school should be highlighted with the use of *italics*.

### **5.5. Time frame**

The schools and associations were contacted via email between the end of August 2020 and the end of November 2020. The questionnaire was sent to the schools starting from October 21st. The schools that failed to reply were contacted twice. By mid-December 2020, the questionnaire collection was considered closed.

### **5.6. Materials and instruments: the questionnaire**

In order to understand whether forest schools were or were not introducing children to foreign languages, and if they were, to understand how they were doing it, a questionnaire was created and sent to forest schools in various countries (Italy, the UK, Spain, Germany, Canada, the USA).

The questionnaire was written in English, Italian and Spanish, in order to facilitate answers (see APPENDICES for individual answers). The questionnaire was designed in a way that was meant to enable respondents to describe the peculiarity of their setting and programme, whilst also offering options, both to clarify the meaning of each question and to favour data interpretation.

### **5.7. The questionnaire: aims and contents**

The analysis of a set of guidelines and recommendations for introducing young children to foreign languages enabled the researcher to use such theoretical perspectives both as the basis for the creation of a questionnaire that was sent to forest schools, and for the interpretation and discussion of the data collected by means of the questionnaire.

The questionnaire posed a total of 20 questions, mixing compulsory and non-compulsory questions, as well as pre-established and open-ended questions, in order to allow for respondents to decide how much information they wanted to share. Although most of the questions provided pre-established options for selection, all of them included the ‘other’ option, so that the respondents could personalise the data as much as necessary. The compulsory questions included the geographical location of the school, the age range, the setting, the curriculum, multilingualism in the school setting, whether the school was introducing children to a foreign language or languages, the frequency of exposure, the number of weekly hours, the methods employed, the challenges faced, and whether the school was planning to keep or change its current approach.

The aims of the questions were:

1. to understand the particular nature, setting and linguistic environment of the school (1-7);
2. to understand the approach and methodology adopted by the school in terms of foreign language learning (8-14);
3. to elicit an assessment of the situation in terms of outcomes, challenges and future plans (15-20).

1. What is the name of your school?
2. What is the geographical location of your school?
3. What age range does your school cover? (0-3, 3-6, 6-11, other)

4. Setting: your school is (completely outdoors, partly outdoors, a 'traditional' school with an outdoor green/natural area, other)
5. How would you describe your curriculum? (emergent, pre-planned based on national guidelines, other)
6. To what extent does your curriculum reflect the national guidelines or recommendations?
7. Is there any multilingualism in the school setting? (The school is in a multilingual community (3 or more languages widely spoken); The school is in a bilingual community (2 languages widely spoken); The school is in a monolingual community, but some children are bilingual or multilingual for family reasons; The school is in a monolingual setting; Other)
8. Are you introducing the children to a foreign language or languages? (Yes; No)
9. Why are you introducing children to a foreign language? (e.g. it is part of the pedagogical approach, parents have requested it, etc.)
10. Why aren't you introducing children to a foreign language?
11. How frequently are the children exposed to foreign languages? (every day; twice a week; once a week; once every few weeks; once a month; less than once a month; never; other)
12. How many hours a week are the children exposed to foreign languages? (more than 5; between 4 and 5; between 3 and 4; between 2 and 3; between 1 and 2; less than 1; 0; other)
13. How are you exposing the children to foreign languages? (routines / songs or actions that are always the same, e.g. hello song, goodbye song); songs; games; storytelling; books; teacher-led 'lessons' about specific topics; we are NOT exposing the children to foreign languages; other)
14. Is the foreign language 'teacher' internal or external to the school? (internal (the teacher works with the children every day and is part of the regular staff); external (the teacher comes to the school only to interact with the children in the foreign language); other)
15. What 'results' or outcomes have you observed? (e.g. how receptive do children seem to the activities in the foreign language?)
16. What challenges have you faced or are you currently facing? (lack of qualified teachers who are also willing to interact with the children in a foreign language; foreign languages are difficult to integrate in the curriculum; the children do not respond well

to activities in the foreign language; 'imposing' a foreign language runs contrary to the school's pedagogical principles; other)

17. Have you solved any problems so far?

18. How did you solve the above-mentioned problems?

19. Are you planning to continue to use your current approach? (yes; no; maybe / undecided)

20. Are you planning to change your current approach? Why / why not?

The questionnaires can be found in the three languages employed (English, Italian and Spanish) in the APPENDICES section.

## **PART THREE: RESULTS AND DISCUSSION**

### **6.1. Introduction**

Although relatively few schools or associations answered the questionnaire, the answers provide enough data to shed some light on an interdisciplinary area which has hitherto been under-researched and which could yield fruitful insights into language learning in early childhood in outdoor environments.

The following pages will present the most relevant data acquired during the research project and discuss it in relation to relevant theories and guidelines related to language acquisition.

Given that forest school seems to be an increasingly widespread phenomenon worldwide (see section 3.2.), it is plausible that similar questionnaires could be posed to forest schools in other countries and in different languages.

### **6.2. Results**

The questionnaire was answered by eleven schools. Eight schools answered the questionnaire in Italian (all Italian schools); two of these respondents seem to refer to the same school, but offer slightly different answers, so they will be analysed separately. Two schools answered the questionnaire in English (an Italian school and a Spanish school). One school answered the questionnaire in Spanish (a Spanish school). One of the eleven schools which responded does *not* introduce or expose children to foreign languages.<sup>37</sup>

#### **6.2.1. Setting: type of forest school**

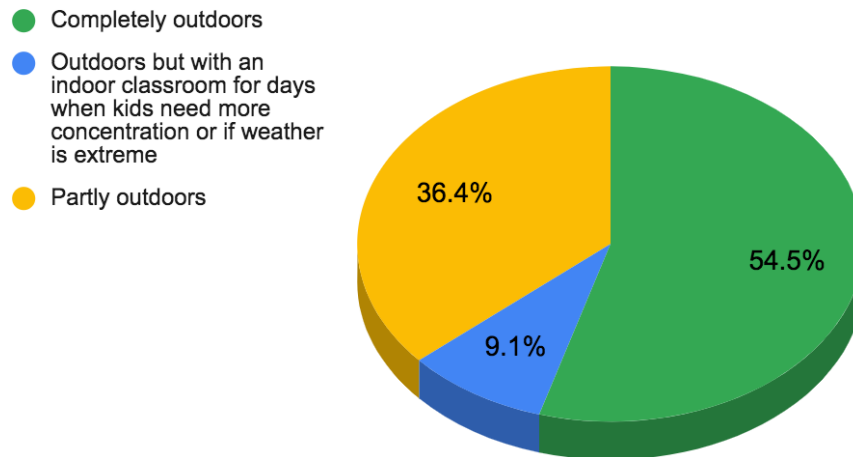
Given that forest schools are peculiar in terms of setting, one of the questions was explicitly about this. As seen above (1.2.3. Forest schools today: the ‘classic’ and the ‘integrated’ models), there are at least two types of forest schools: the ‘classic’ model in which children

---

<sup>37</sup> See APPENDICES for individual answers.

spend most of the time outdoors, and the ‘integrated’ model, which is a more traditional setting that provides an outdoor space (Schenetti et al. 2015:41).

#### Question 4: Setting: your school is...



Six respondents (54.4%, N1, N4, N6, N7, N8, N9) stated that their school is completely outdoors. Four schools (36.4%, N3, N5, N10, N11) stated that they are partly outdoors. One school (9.1%, N2) specified that it is outdoors, ‘but with an indoor classroom for days when kids need more concentration or if [the] weather is extreme’.

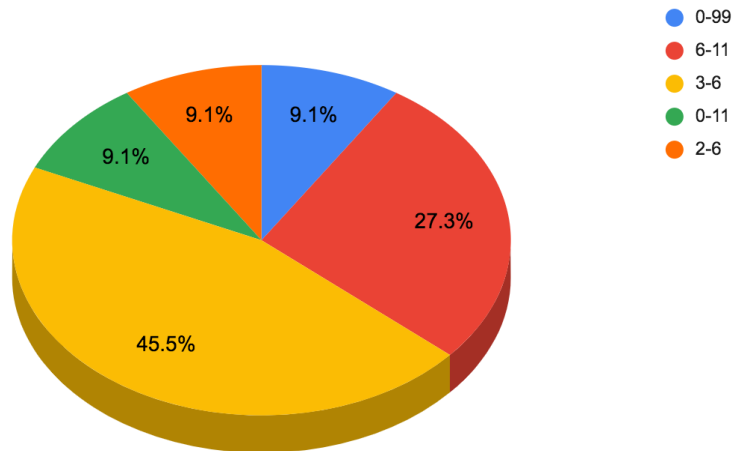
Thus, both the classic and integrated models of forest schools seem to be represented in this sample.

#### 6.2.2. Age and its relation to language acquisition

The initial questions in the questionnaire aimed to draw a picture of the schools involved in the research project in terms of geographical location, environmental setting, and age groups represented. One of the questions meant to identify the age groups involved in the research project.



### Question 3: What age range does your school cover?



The possible answers were 0-3, 3-6, 6-11, and ‘other’. As the pie chart shows, five schools (45.5%) answered 3-6 and 3 schools (27.3%) answered 6-11. The other 3 schools inserted their own data (amounting to 9.1% each), indicating 2-6, 0-11 and 0-99.

The data collected through the use of the questionnaire shows that the majority of the schools involved work with young children in infant/nursery schools or primary schools. This may be considered an ideal age for FL acquisition, as theories of language acquisition show.<sup>38</sup>

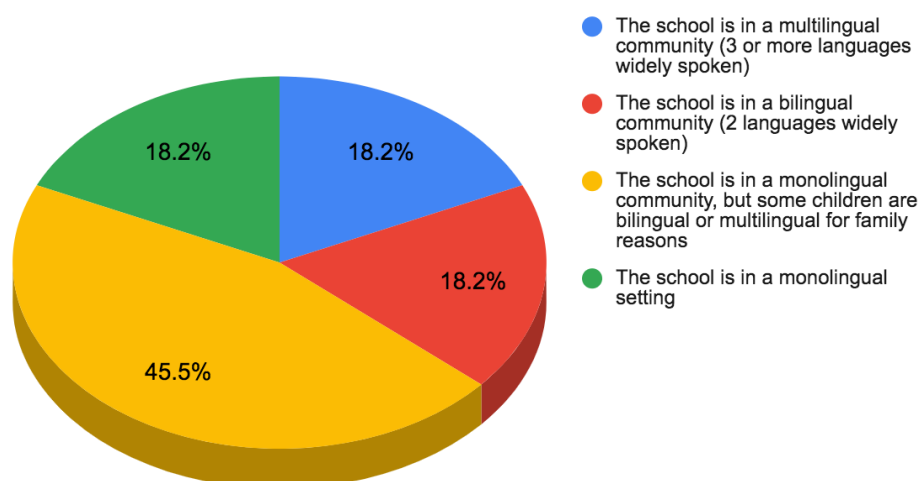
#### 6.2.3. Linguistic environment: multilingualism, bilingualism, monolingualism

Because it may be expected that the linguistic context outside of a school might be connected with the school’s linguistic choices, the questionnaire included a question that was meant to assess the impact of the language environment on the forest schools’ language policies.

---

<sup>38</sup> See section 6.3. for further information.

### Question 7: Is there any multilingualism in the school setting?



There were 4 pre-established answers (stated in the chart above), as well as the ‘other’ option.

Just under half of the eleven respondents replied that ‘The school is in a monolingual community, but some children are bilingual or multilingual for family reasons’ (45.5%, five schools, N3, N4, N8, N10). The remaining six respondents chose the other three options (18.2% or two schools per answer), stating that they belong to ‘a multilingual community (3 or more languages widely spoken), or to ‘a bilingual community (2 languages widely spoken), or to a monolingual community. The schools belonging to a monolingual community were in Italy (N5) and in Spain (N11), with the Spanish school being the one that does *not* introduce children to foreign languages.

Four schools (N1, N2, N6, N9) reported being in a bilingual or multilingual community. A closer look at these schools shows that they are located in geographical areas that include the use of Spanish and Catalan (Valencia, Spain), Italian and French (Piemonte, Italy), Italian and Sardinian (Saredegna, Italy), Italian, German and Ladino (Trentino Alto Adige, Italy).<sup>39</sup> Moreover, a school in Friuli Venezia Giulia (Italy) offers laboratories in English and the local *lingua friulana* (see section 6.2.10. below).

Overall, the answers to the questionnaire seem to indicate that the majority of the schools involved in the research project are either in multilingual communities or in a monolingual

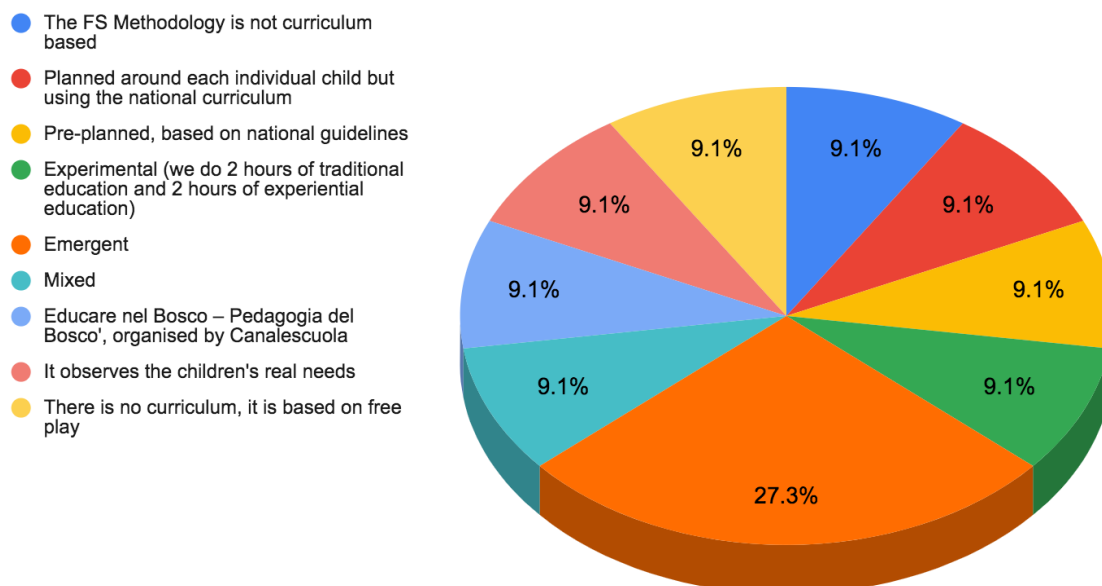
<sup>39</sup> See APPENDICES for individual answers.

community in which some of the children are bilingual or multilingual for family reasons.<sup>40</sup> In fact, it seems that such schools not only use foreign languages in their setting, but also the languages spoken in the community (such as local languages, as in the case of the schools in Trentino Alto Adige and Friuli Venezia Giulia, see section 6.2.10. below).

#### 6.2.4. The curriculum and opportunities for language acquisition

In order to understand how forest schools were dealing with the integration of foreign languages in their curriculum, the questionnaire included two questions about the curriculum.

##### Question 5: How would you describe your curriculum?



The options to choose from were ‘emergent’, ‘pre-planned, based on national guidelines’, and ‘other’ (which allowed respondents to insert their own answer). Eight respondents gave a different answer each (9.1%). Three respondents (27.3%) selected ‘emergent’.

<sup>40</sup> For example, N4 stated ‘[...] we have children who are native speakers of German, American English and British English. One of our teachers is a native speaker of Spanish’.

As mentioned in section 2.3.3., forest schools generally adopt an ‘emergent curriculum’. For this reason, the question regarding how the curriculum balanced the forest school approach with national guidelines or specific requests (which might be present in parent-led schools) seemed useful to shed light onto this aspect. Moreover, the intersections between forest school and national curriculums have been highlighted in academic literature. For example, Maynard (2007) comments that forest school ‘fits well with the recent curriculum framework for both the English Foundation stage and the proposed Foundation Phase for Wales [...] which [...] place particular interest on the centrality of learning through play in a stimulating indoor and outdoor contexts, on children’s personal, social and emotional development and well-being, and on the development of positive dispositions towards learning’ (Maynard 2007:328).

With regard to the Italian guidelines, the ones related to language learning were briefly illustrated above (4.3.2). The most recent guidelines (MIUR 2017) indicate that ‘plurilingual and intercultural education is a resource that gives value to differences and supports the academic success of everyone. As such, it is a prerequisite for social inclusion and democratic participation’ (MIUR 2017:9, translated from Italian).<sup>41</sup> Moreover, the national guidelines argue that the CLIL (*Content and Language Integrated Learning*) approach should be gradually introduced in schools of all levels (MIUR 2017:10, translated from Italian).<sup>42</sup>

The Italian guidelines seem to match the recommendations according to which the aims of activities in a FL should not be ‘linguistic’, but ‘curricular’, i.e. in keeping with the aims of the curriculum (Coonan 2001:58). Balboni (2012:93) also recommends integrating the FL in the curriculum, while Titone (1973:19) stressed the usefulness of including cultural elements in the FL activities, in order to promote intercultural awareness.

It may be expected that forest schools, like other schools in Italy, might choose to propose activities which use foreign languages in order to follow such guidelines. The way in which this can be done, from a practical perspective, will be presented below.

---

<sup>41</sup> ‘L’educazione plurilingue e interculturale rappresenta una risorsa funzionale alla valorizzazione delle diversità e al successo scolastico di tutti e di ognuno ed è presupposto per l’inclusione sociale e per la partecipazione democratica’ (MIUR 2017:9).

<sup>42</sup> ‘Viene quindi auspicata l’introduzione graduale della metodologia CLIL in tutti i gradi e ordini di scuola’ (MIUR 2017:10).

A second question about the curriculum was open-ended and intended to collect more precise information.

**Question 6: To what extent does your curriculum reflect the national guidelines or recommendations?**

The answers given were:

1. See above (N1)
2. Loosely (N2)
3. 50% (N3)
4. *It completely reflects the guidelines, in terms of development of transversal and multidisciplinary competencies. We do not believe in the uniqueness of the [different] subjects, but in the shared knowledge between children and adults, and in following the children's interests. (N4)*
5. The guidelines are respected through an alternative pedagogy. (N5)  
It follows the national guidelines in terms of achievement of psychological, physical, emotional and relational objectives, as well as of autonomy. (N6)
6. *We use the guidelines but follow the needs and competencies of the children. (N7)*
7. It surpasses them, because it is an approach of integral pedagogy in the woods, a pioneer project in Italy. (N8)
8. We have done all of the compulsory courses (first aid, workplace safety, fire safety) in addition to the more specific training courses about woods pedagogy, recognising the wood's resources, psychology and meteorology. (N9)
9. Completely, because the guidelines are very clear but at the same time they allow for autonomy and educational/didactic freedom. (N10)
10. It does not. (N11)

It would seem that the Italian schools in particular feel that their curriculum either reflects quite well and is somewhat 'compatible' with the national guidelines (N3, N5, N7), or suggest that their approach completely reflects the guidelines (N4, N10) or even surpasses them in terms of quality (N8). On the contrary, the two Spanish schools state that 'the FS methodology is not curriculum based' and that the school 'does not' reflect the national guidelines or recommendations (N1 and N11 respectively).

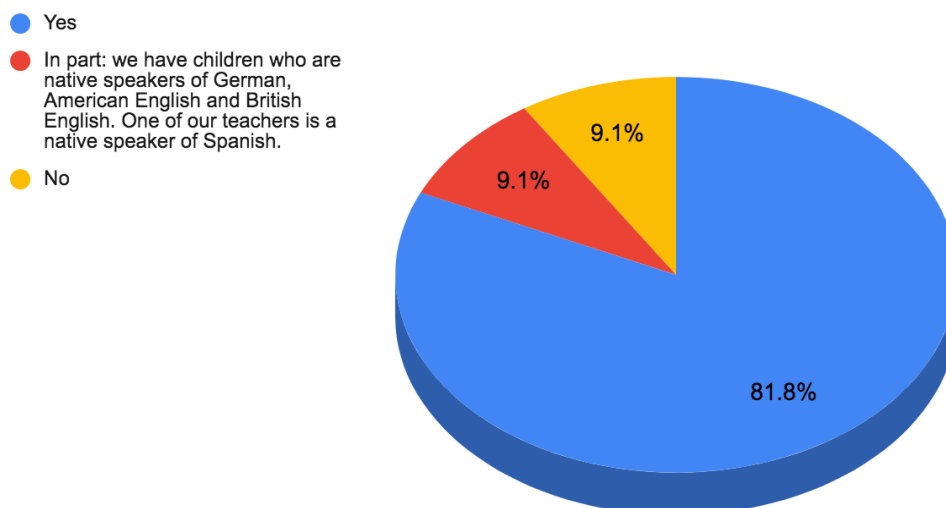
In general, the answers to these two questions regarding the forest school curriculum could be expected to vary not only because of the peculiarity of each forest school setting, but also

because national guidelines vary across countries. Therefore, for the purpose of research on this topic it may be suggested that the extent to which forest schools adapt their curriculum needs to be considered on a case-by-case basis.

### 6.2.5. To introduce or not to introduce children to foreign languages: exploring the reasons behind each choice

Three questions aimed to understand not only whether children in these schools were being introduced to foreign languages, but also the reasons behind each school's choice.

#### Question 8: Are you introducing the children to a foreign language or languages?



The majority of the respondents (nine schools out of eleven, amounting to 81.8%) stated that they are introducing children to foreign languages. Only (N11) clearly stated that it is *not* introducing children to foreign languages. Another one referred to the multilingualism that characterises its environment but did not seem to indicate that exposing the children to foreign languages was 'planned' by the school.

The question about the reasons for exposing children to foreign languages offered a sample answer but was open-ended, in order to allow respondents to personalise their answer:

**Question 9: Why are you introducing children to a foreign language? (e.g. it is part of the pedagogical approach, parents have requested it, etc.)**

1. Added value to the project (N1)
2. We believe that children can easily learn a second language in a natural environment (N2)
3. It is part of our pedagogical approach (N3)
4. *Because multiculturalism is the foundation of the pedagogical values that we promote (N4)*
5. During the afternoon activities we have offered an outdoor course of English and Spanish (N5)
6. We have a natural approach to foreign languages which is also influenced by the presence of foreign children and of bilingual teachers (N6)
7. *It is partly a pedagogical approach, partly a request of the parents and children (N7)*
8. Children do it naturally with each other (N8)
9. Because in our town all the activities, infant school and schools include three languages: Italian, German and Latin. Moreover, all the parents requested it (N9)
10. Because in any case the children are already exposed to English in their everyday lives. Moreover, at this age children can experience significant learning through play and everyday life, so why not use English every now and then? (N10)
11. N/A (N11)

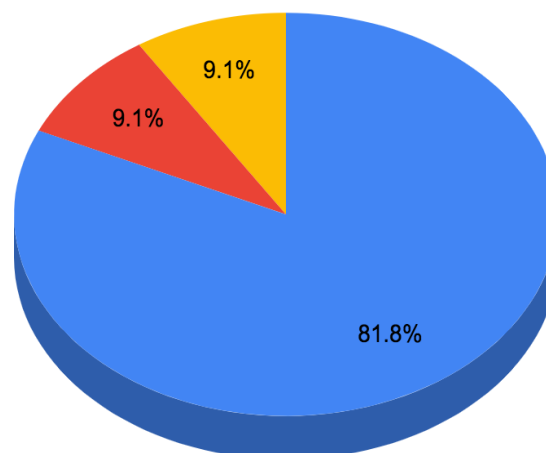
As can be noticed, although the responses varied considerably, certain factors emerged more frequently, such as the presence of multilingualism in the school setting (N6, N9), the presence of English in everyday life (N10), the nature of the schools' pedagogical approaches (N3, N4) or a combination of factors (N6, N7), including parental requests (N7).

Therefore, while it is difficult to pinpoint the exact reasons why forest schools may choose to include foreign languages in their setting, the responses to this questionnaire seem to suggest that a variety of contextual factors may influence forest schools to make this decision.

The opposite question was also posed, in order to gain further data regarding the reasons why forest schools may choose *not* to introduce children to foreign languages.

### Question 10: Why aren't you introducing children to a foreign language?

- No reply
- We do not do 'English' or 'foreign language', but we sing and play with languages
- Although there are mixed families (bilingual in different languages), the learning of another languages is not required in the school context



Although the majority of the schools (81.8%) did not reply to this question, because they are introducing children to a foreign language, two schools reported not using foreign languages or not using them intentionally. In particular, N4 replied 'We do not do 'English' or 'foreign language', but we sing and play with languages', while N11 stated that 'although there are mixed families (bilingual in different languages), the learning of other languages is not required in the school context'.

Thus, no specific reasons other than a lack of 'requirement' were stated for not introducing children to a foreign language or languages. We may conclude that, in order to appreciate the variety of factors that influence the decision to include or not to include foreign languages in a forest school setting, the choice of each forest school should be considered on an individual basis. To this regard, it may be suggested that case studies might offer further insight into the reality of each forest school and of its particular setting.

#### 6.2.6. An exploration of critical factors in language acquisition

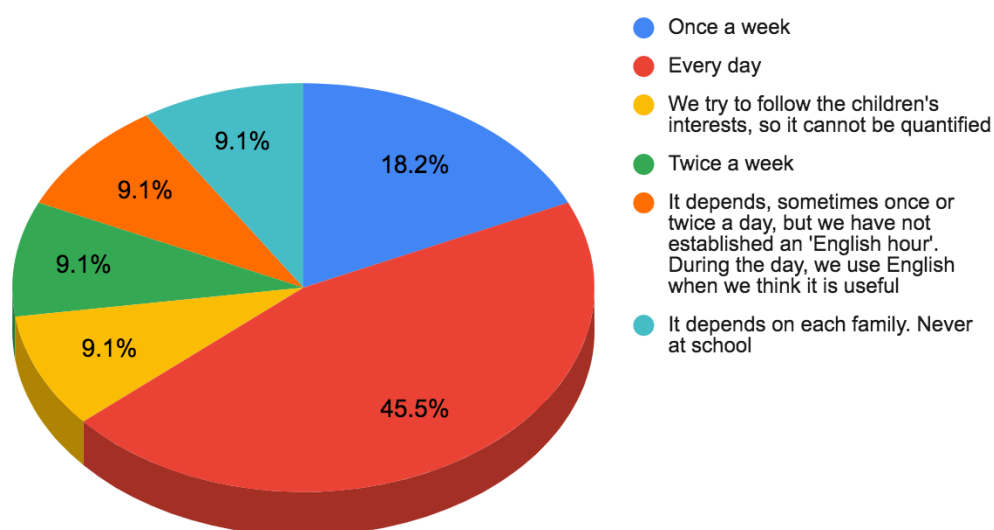
Some critical factors in language acquisition were taken into account in the questionnaire design; these include frequency of exposure, routines and meaningful language use, and the teacher's competence.



### *i. Frequency of exposure*

Given that frequent exposure to the foreign language seems to be most beneficial (Favaro 2016:89, Titone 1973:15-16), two questions in the questionnaire were devoted precisely to this topic.

#### **Question 11: How frequently are the children exposed to foreign languages?**



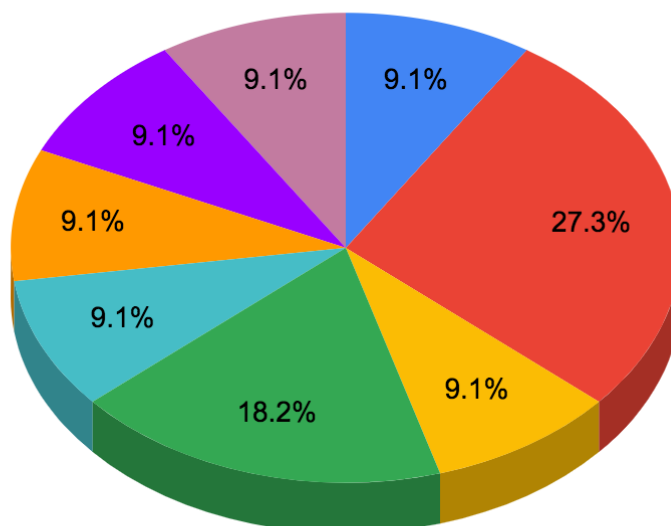
Five schools (amounting to 45.5%) stated that children are exposed to foreign languages every day; two schools (18.2%) selected the 'once a week' option; of the remaining four schools (9.1% each), three answered that frequency is variable or difficult to quantify, and one stated that it does *not* expose children to foreign languages.

Thus, according to the answers, almost half of the schools involved in the research project expose the children to foreign languages every day, i.e. with great frequency. However, frequency alone cannot offer enough information regarding the quantity and quality of linguistic input.

In order to understand *the extent* to which children are exposed to or engaged in the use of foreign languages, a second question, framed in terms of *length of exposure* (expressed in hours) was posed to the respondents:

**Question 12: How many hours a week are the children exposed to foreign languages?**

- Between 3 and 4
- Between 4 and 5
- This type of data is too 'rigid' to represent what actually happens in our setting
- Between 1 and 2 hours
- It cannot be quantified because foreign languages are included in a spontaneous context
- More than 5
- It depends, it would be hard to quantify in terms of time
- It depends on each family. None at school



Three schools answered ‘between 4 and 5’ (27.3%); two schools answered ‘between 1 and 2 hours’ (18.2%). The remaining six schools gave different answers (amounting to 9.1% each): three of them stressed that it is difficult to quantify length of exposure in their setting; one stated ‘more than five’; one does not expose children to foreign languages.

A closer look at the individual answers allows us to gain a clearer picture of the profile of each school:

(Frequency of exposure – Weekly hours)

N1. Once a week - Between 3 and 4

N2. Every day - Between 4 and 5

N3. Every day - Between 4 and 5

*N4 We try to follow the children’s interests so it cannot be quantified - This type of data is too ‘rigid’ to represent what actually happens in our setting*

N5. Once a week - Between 1 and 2 hours

N6. Every day - It cannot be quantified because FL are included in a spontaneous context

*N7. Twice a week - Between 1 and 2 hours*

N8. Every day - Between 4 and 5

N9. Every day - More than 5

N10. It depends, sometimes once or twice a day, but we have not established an 'English hour'. During the day, we use English when we think it is useful - It depends, it would be hard to quantify in terms of time

N11. It depends on each family. Never at school - It depends on each family. None at school

While almost half of the schools answered that the children are exposed to a FL every day (N2, N3, N6, N8, N9), the majority (27.3%, namely N2, N3, N8) answered 'between 4 and 5' and in one case 'more than 5' (N9). This would seem to indicate that the children in these schools are exposed to a FL at least 30 minutes a day (according to the answers given, the actual time would amount to approximately 1 hour a day), which is in keeping with the recommendations for optimal frequency and length of exposure.

The other answers are less precise: in some cases, the respondents stated that the nature of the activities in a FL is not structured in a way that allows for quantification (N4, N6, N10). In one case, the respondent stated that the activities in a FL happen once a week, for 3-4 hours (N1); however, this particular school offers an immersion programme (see section 6.2.10. below), and therefore it may be possible that the box 'once a week' was ticked by mistake. Two schools (N5 and N7) seem to have organised foreign language exposure for a couple of hours once or twice a week respectively. It should be noted that while the answers of N4 and N7 have been marked as possibly pertaining to the same school, in this case they differ considerably: N4 reports following the children's interests and not being able to quantify FL exposure, while N7 seems to be able to describe both frequency and hours of exposure.<sup>43</sup>

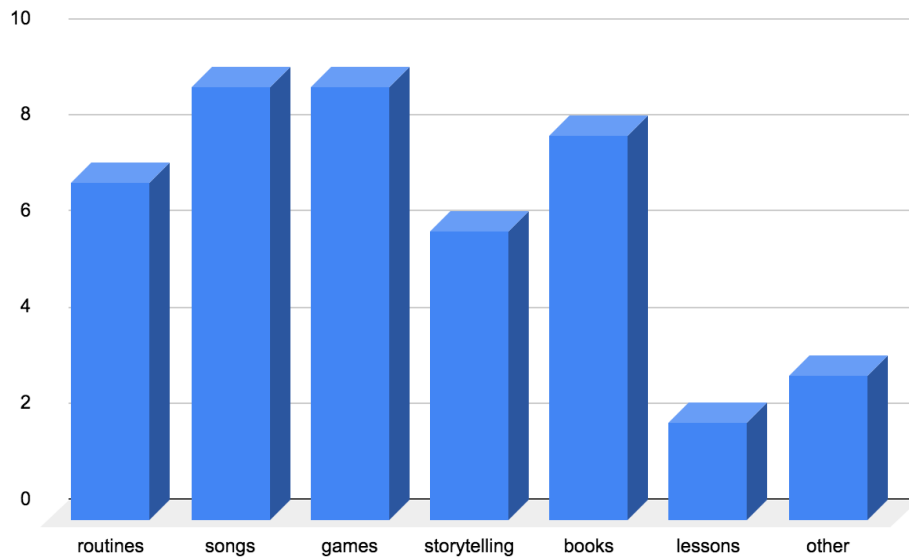
## ***ii. Routines and meaningful language use***

---

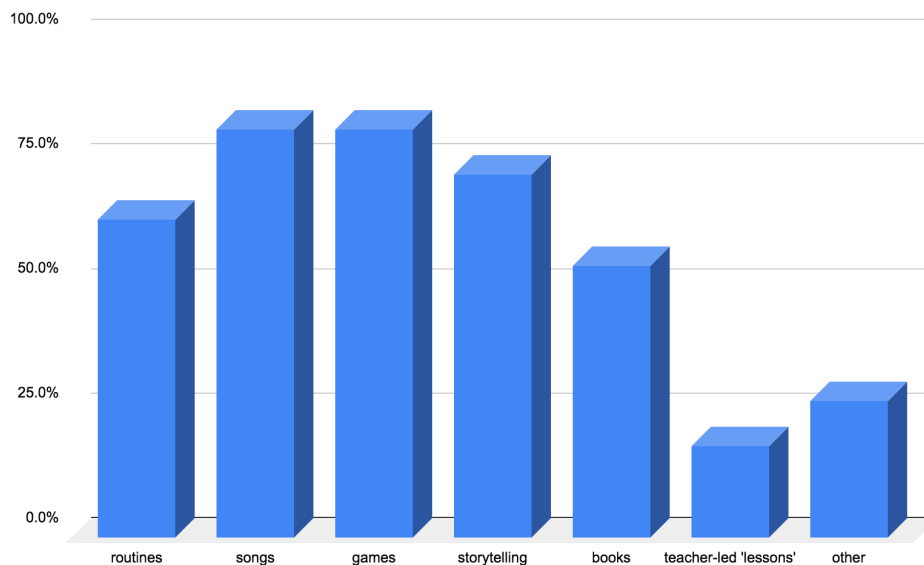
<sup>43</sup> While the nature of the questions in this research project does not allow us to gain a better understanding of the *quality* of the linguistic input, a series of questions regarding *how* children are being exposed to a FL attempted to share more light on this topic.

With regard to forest schools, in order to analyse *how* children were being exposed to foreign languages and to gain an initial overview of specific techniques employed, the following question was asked:

**Question 13: How are you exposing the children to foreign languages?**



*Figure 11: the chart with the number of answers given (left-hand side), expressed in units*



*Figure 12: the chart with the number of answers given (left-hand side), expressed in percentages*

The given options were:

1. Routines (songs or actions that are always the same, e.g. hello song, goodbye song)
2. Songs
3. Games
4. Storytelling
5. Books
6. Teacher-led 'lessons' about specific topics
7. We are NOT exposing the children to foreign languages
8. Other

A total of forty-four answers were given, as follows:

1. Routines (songs or actions that are always the same, e.g. hello song, goodbye song): 7 (63.6%)
2. Songs: 9 (81.8%)
3. Games: 9 (81.8%)
4. Storytelling: 7 (54.5%)
5. Books: 8 (72.7%)
6. Teacher-led 'lessons' about specific topics: 2 (18.2%)
7. We are NOT exposing the children to foreign languages: 0%
8. Other:
  - a. Using expressions in English to describe their routine actions (e.g. let's take off our boots, let's go inside and go to the bathroom)
  - b. Excursions in the local area
  - c. Each family has its own way to do this at home. We don't do it at school.<sup>44</sup>

The majority of the respondents (between 63.6 and 81.8%) mentioned the use of routines (here described as 'songs or actions that are always the same, e.g. hello song, goodbye song'), songs and games. In particular, seven respondents (63.6%) stated that they use foreign languages in routine situations, and nine respondents (81.8%) stated that they employ songs and games with the foreign language. Moreover, one school (N10) explicitly mentioned, in the section 'Other',

---

<sup>44</sup> School N11 could have ticked option number 7 ('We are NOT exposing the children to foreign languages'), but chose to use the 'other' option and state 'Each family has its own way to do this at home. We don't do it at school'.

that they use ‘expressions in English to describe the children’s routine actions (e.g. Let's take off our boots; Let's go inside and go to the bathroom)’.

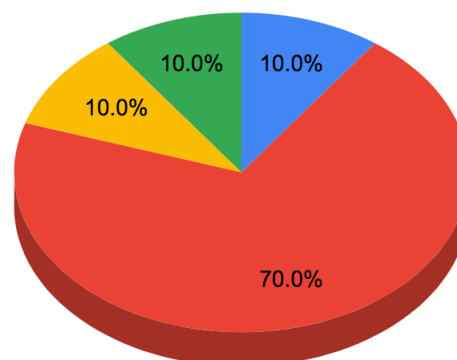
The results of the questionnaire seem to match fairly well the recommendations related to the use of routines and of a physical experience of language learning. In particular, the comment about the use of expressions in English (N10) matches the advice according to which, for young children, the internalisation of linguistic input is promoted by the physical experience of routine actions or situations, when they are combined with the use of language in meaningful and predictable contexts (Favaro 2016:89; Bruner 1983:120-121). That being said, only one of the schools which participated in the research project proposes an immersive curriculum (N1, located in Spain) in English.<sup>45</sup> Finally, the use of songs and games, which was quite popular (nine schools out of the ten schools that expose children to foreign languages stated that they use songs and games), is in keeping with the recommendation that learning be playful (Balboni 2012:93–95).<sup>46</sup>

### *iii. The teacher’s competence*

A specific question aimed to shed light onto the lack of specialised teachers reported by Titone (1973) and Favaro (2016).

#### **Question 14: Is the foreign language ‘teacher’ internal or external to the school?**

- It's two of us running the whole project
- Internal (the teacher works with the children every day and is part of the regular staff)
- External (the teacher comes to the school only to interact with the children in the foreign language)
- There is a teacher in our teaching team that is the reference point for the English project, but in practice all of the teachers are involved



<sup>45</sup> See section 6.2.10 for further details on this school.

<sup>46</sup> For a more extensive discussion, see the Discussion (6.3) section below.

Because one of the eleven respondents does not include a foreign language or languages in its educational offer, this question was answered by ten schools only. Seven schools (70%) stated that their foreign language teacher is internal; the remaining three (10% each) answered differently: in one case, the teacher is external; in another case, a teacher who is a native speaker of English is internal and runs a bilingual English–Spanish project with her colleague (N1); in another case, although there is a main teacher for the English language project, all the teachers are involved (N10). Therefore, the majority of the respondents indicated that, in their projects, activities foreign languages are managed by the regular staff.

Although these answers show *who* is involved in dealing with foreign languages, they do not offer any information regarding *quality* of the input; therefore, the issue of quality of language and pronunciation presented by Titone (1973) and Favaro (2016) has yet to be addressed in this particular context.<sup>47</sup>

### 6.2.7. Outcomes

Although this research project does not aim to assess the potential outcomes of foreign language learning activities offered to children in forests schools, it was decided that one open-ended question should regard the outcomes forest schools may have observed:

**Question 15: What ‘results’ or outcomes have you observed? (e.g. how receptive do children seem to the activities in the foreign language?)**

1. It depends on their personal interests. Some take on the challenge and speak the language, others are less so inclined.
2. The children pick up the day to day language and start to naturally repeat sequences. They also like listening to songs and participating in guessing games.
3. The children are 100% open to the foreign language
4. Easy learning and a growing interest

---

<sup>47</sup> This type of research might require the combined use of quantitative and qualitative research methods, such as observations and interviews with forest school teachers, as well as language tests.

5. A small number of participants (this is the first year we've offered outdoor language courses and in any case as an after-school service, not during the main school day), engagement and very positive interest
6. The children are very open and curious. They learn with curiosity and joy.
7. The children are very open
8. The children are curious
9. To be honest they are very open and they have already integrated all the languages even in their role-play games
10. [The children are] very open. They repeat everything by themselves and having fun, but more importantly in the long run they also reuse some expressions in English with each other, in their games or routines
11. N/A

In general, the responses were very positive: the children were described as being 'curious' about and 'open' to foreign languages (N3, N6, N7, N8, N9, N10). Moreover, the respondents emphasised that children 'pick up' the language (N2) and that learning is 'easy' for them (N4). One respondent noted that the children 'reuse some expressions in English with each other' (N10), while another mentioned that the children 'have integrated all the languages even in their role-play games' (N9).

The responses given by these forest schools, although based on subjective observation rather than hard data, resonate with the guidelines according to which children learn by being exposed to a language frequently, in meaningful contexts, thanks to the integration of language into the children's routine and also thanks to a playful approach to the use of language. Moreover, in some responses there is an indication that children actually use the language they have been exposed to in active ways when they are engaged in play. This is a particularly interesting point that could be explored further in future studies.

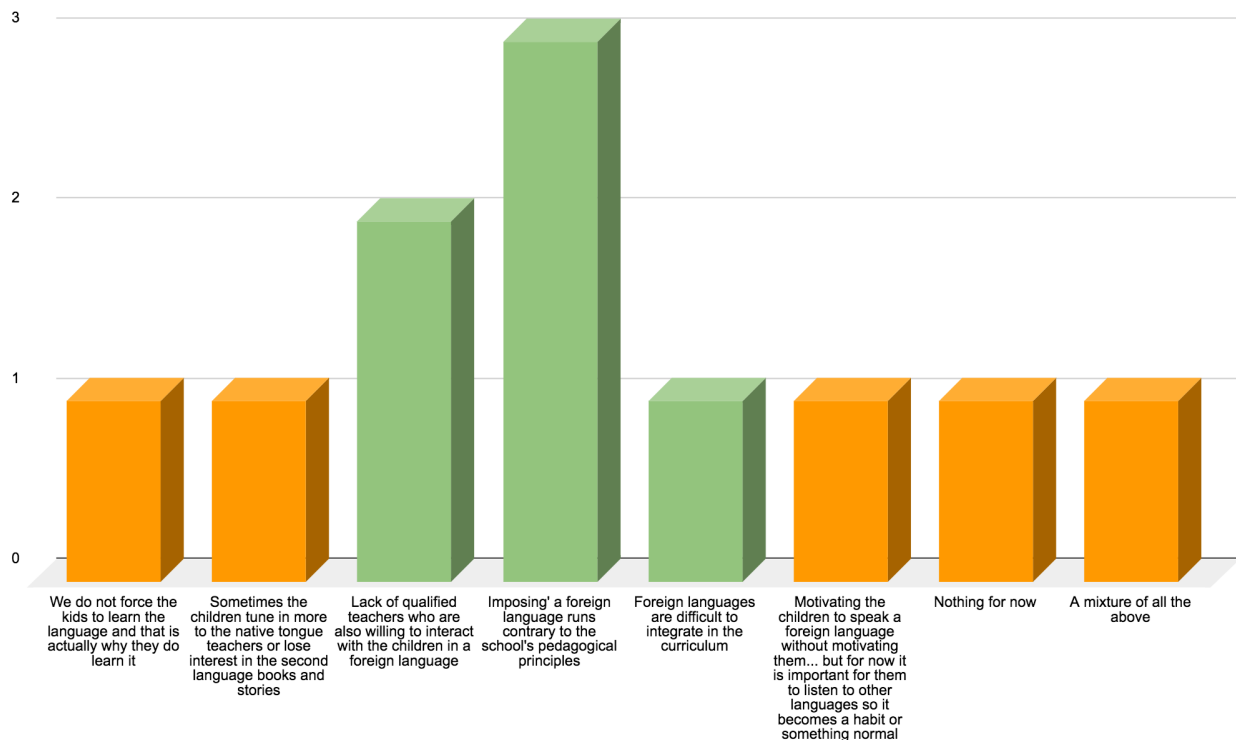
### **6.2.8. Challenges and solutions**

One of the aims of this research project was to gain an initial insight into the challenges that forest schools may face when introducing children to foreign languages. Three questions were included to shed light onto this aspect. The first question (*Question 16*) asked for explicit information about challenges, suggesting some options whilst also leaving space for personal



comments. The second question (*Question 17*) was open-ended and required respondents to write their own answer. The third question (*Question 18*), which was also open-ended, regarded how problems had been solved.

**Question 16: What challenges have you faced or are you currently facing?  
(bar chart format)**

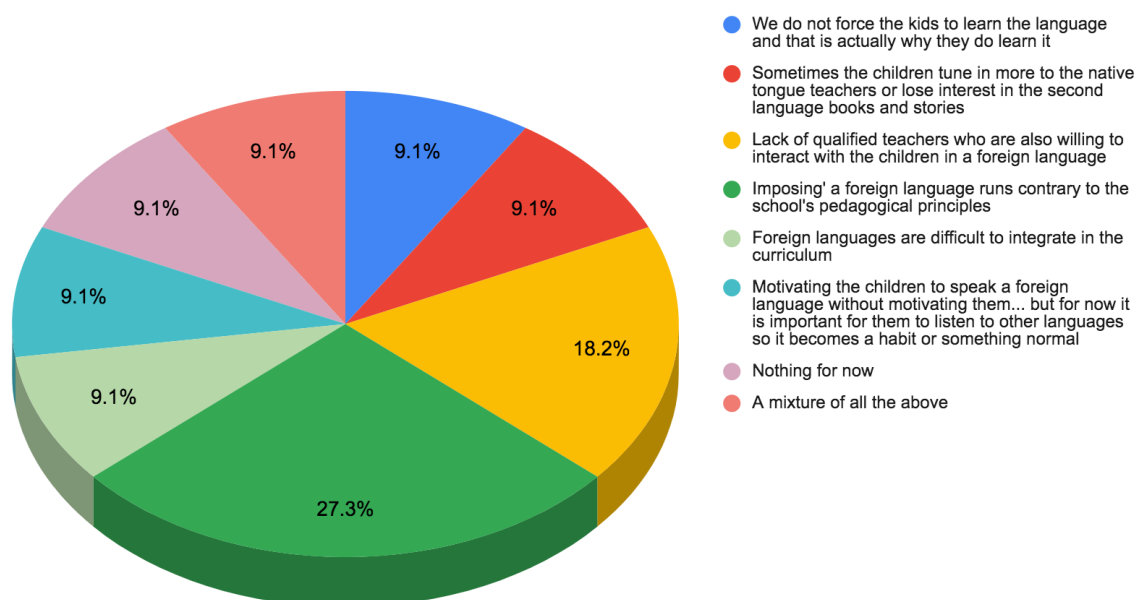


The options in the questionnaire are coloured in green in the bar chart above and included the following (*nota bene*: more than one option at once could be selected):

1. Lack of qualified teachers who are also willing to interact with the children in a foreign language
2. Foreign languages are difficult to integrate in the curriculum
3. The children do not respond well to activities in the foreign language
4. 'Imposing' a foreign language runs contrary to the school's pedagogical principles
5. Other: ...

### Question 16: What challenges have you faced or are you currently facing?

(pie chart format)



Just over one fourth of the respondents stated that *'imposing a foreign language runs contrary to the school's pedagogical principles'* (27.3%, 3 schools, N4, N6 and N8 ). Just under one fifth of the respondents mentioned the *'Lack of qualified teachers who are also willing to interact with the children in a foreign language'* (18.2%, N3 and N5).

The remaining answers amount to 9.1% each and are as follows:

- 'We do not force the kids to learn the language and that is actually why they do learn it' (N1);
- 'Sometimes the children tune in more to the native tongue teachers or Loose [lose] interest in the second language books and stories.' (N2)
- 'Foreign languages are difficult to integrate in the curriculum' (N7)
- 'Motivating the children to speak a foreign language without motivating them... but for now it is important for them to listen to other languages so it becomes a habit or something normal' (N9)
- 'Nothing for now' (N10)
- 'A mixture of all the above' (N11)

No school ticked the option ‘*The children do not respond well to activities in the foreign language*’ (for this reason, this option is not visible in the bar chart above).

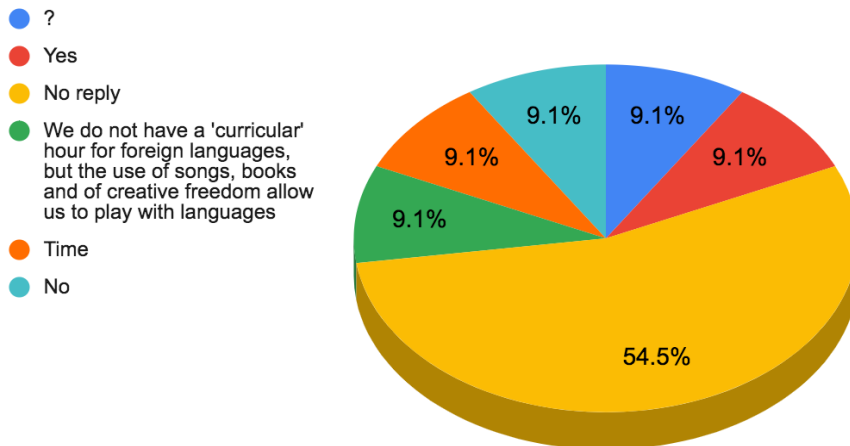
The main challenges faced by the schools in this sample seem to be related to the school’s pedagogical approach, which makes it difficult to ‘impose’ a foreign language, as well as the lack of qualified teachers who would be ready to use foreign languages with the children. As mentioned above in the analysis of *Question 14 (Is the foreign language ‘teacher’ internal or external to the school?)*, the lack of qualified language teachers with a pedagogical background also seems to be a possible issue in the forest school context.

With regard to the ‘imposition’ of a foreign language, the comment about the difficulty in ‘motivating the children to speak a foreign language *without* motivating them’ (N9, italics added) further adds to the idea that ‘organising’ foreign language learning in the forest school context can be challenging. The comment that ‘foreign languages are difficult to integrate in the curriculum’ also seems to resonate with this challenge. Finally, this impression seems validated by the statement according to which, in one particular school, children learn because they are not ‘forced’ to do so (N1).

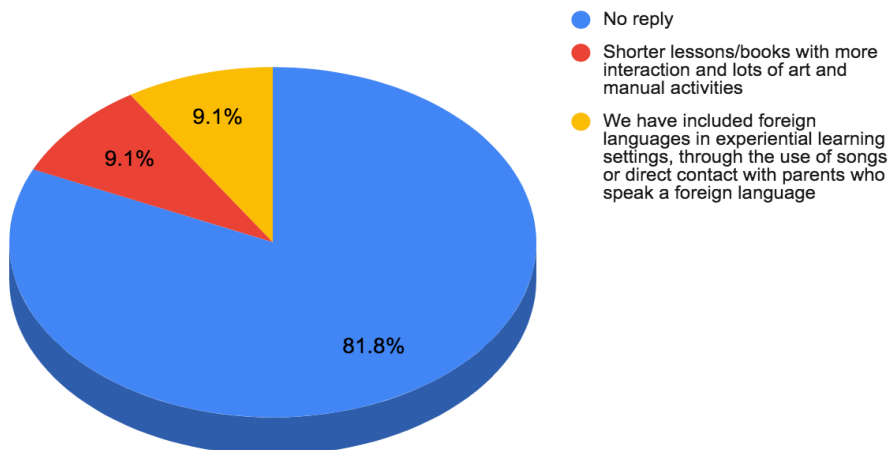
The second question on this topic (*Question 17*) meant to shed light onto the problems that forest schools might already have faced. This question was followed by a third, related question (*Question 18*), which asked how such problems had been solved.

Five schools answered *Question 17*, each in a different way, while six schools (54.5%) did not reply. Two schools (number 2 and 4 below) also replied to *Question 18: How did you solve the above-mentioned problems?*, as can be seen below.

### Question 17: Have you solved any problems so far?



### Question 18: How did you solve the above-mentioned problems?



1. N1 answered with a question mark, which does not offer any information as to whether the school has faced any issues.
2. N2 answered 'yes'; it also mentioned the solution in *Question 18*: 'Shorter lessons/books with more interaction and lots of art and manual activities'.
3. N4 answered 'We do not have a "curricular" hour for foreign languages, but the use of songs, books and of creative freedom allow us to play with languages'. Therefore no problem was stated.

4. N7 answered 'time'; it added the following information on the solution: 'We have included foreign languages in experiential learning settings, through the use of songs or direct contact with parents who speak a foreign language'.
5. N11, the only school which answered the questionnaire despite not introducing children to foreign languages, answered 'No'.

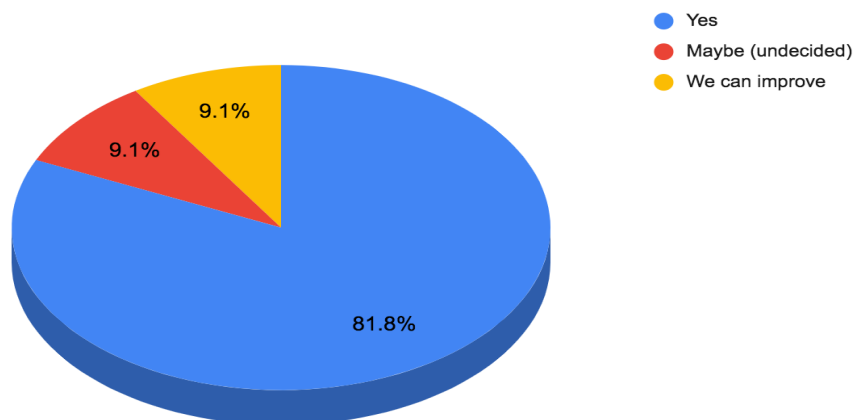
Therefore, not many problems were explicitly identified by the respondents. However, two solutions were mentioned: the use of 'shorter lessons/books with more interaction' (N2) and the inclusion of foreign languages 'in experiential learning settings' (N7) in order to deal with the problem of 'time' (which may refer to the fact that children need sufficient exposure to a foreign language in terms of frequency).

We may conclude that at least some forest schools have already faced and overcome some challenges related to language learning in a forest school context.

#### 6.2.9. Plans for the future

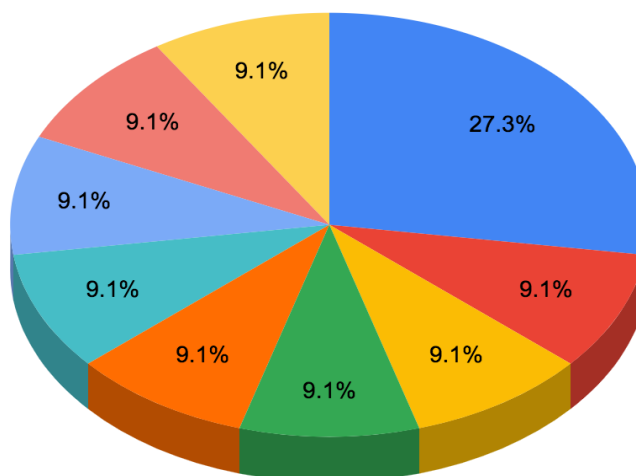
The last section of the questionnaire aimed to obtain from the respondents an assessment of their individual situations, not only in terms of outcomes, but also of challenges and future plans. Two questions focused on whether the schools were planning to keep or change their approach:

#### Question 19: Are you planning to continue to use your current approach?



## Question 20: Are you planning to change your current approach? Why / why not?

- No
- No, we think it is valid
- Maybe in the future we will consider planning specific language laboratories on a weekly basis
- No, all of the activities of our association follow this outdoor approach
- We do not intend to change our approach
- We would like to improve by offering children the opportunity to learn other languages, including Sicilian
- No, because everyone is happy with how things are going. The children enjoy learning languages in this way, it is all free play and learning by discovering
- Not for now.
- No, unless families ask us to. In that case we would look for a solution.



All of the schools involved seemed to be content with their current approach. Two respondents (*N4* and *N7*, which might refer to the same school) indicated that they would like to improve their offer by planning language laboratories on a weekly basis and including other languages. The only school among the respondents which is not introducing children to foreign languages stated that it would look for a solution if the children’s families asked the school to do so.

### 6.2.10. Information about the participants and their geographical contexts

The following paragraphs report some additional information that may help us better understand the context in which the forest schools involved in this research project operate.

Some of the schools that responded to the questionnaire include a specific language ‘offer’ in their curriculum. In Spain, *N1* offers a language immersion programme in English, called ‘*inglés vivencial*’ (‘English experience’). The school is run by two teachers, a native speaker of English and a native speaker of Spanish. While both languages are used with the children, English seems to be preferred.

The Italian government recognises 12 minority languages: Albanian, Catalan, Germanic languages, Griko, Croatian, French, Franco-Provençal, Friulian, Ladin, Occitan, Sardinian, Slovene (MI/MUR 2020). Some of the schools which participated in this research project refer to these minority languages.

For example, **N9** is located in Trentino Alto Adige, a region in which Italian and German are both official languages and in which the use of Ladin is also promoted at school (DPR 1972, Articles 99 and 102). In the questionnaire, this school mentioned the use of these three languages (see APPENDICES).

Furthermore, **N10**, in the region of Friuli Venezia Giulia, offers at least two language laboratories, one in English and one in a local language (Friulian language or *lingua friulana*). The laboratories are included in the school's offer for years 2019 to 2022 (Scuola dell'Infanzia Don Antonio Sbaiz Sedegliano 2019).

The teaching of the Friulian language is regulated by state law and regional law, due to the linguistic history and heritage of the region of Friuli Venezia Giulia.<sup>48</sup> The aim of the school is to offer a plurilingual and pluricultural education which is not only open to the use of Italian and Friulian, but also of foreign languages (Scuola dell'Infanzia Don Antonio Sbaiz Sedegliano 2019:29-30).

As for the English language laboratory, called 'A Natural Learning', it does not include the 'teaching' of English as a subject; rather, it is configured as a proposal of situations in which the children can develop an awareness of language codes and communicative codes that are different from their own (Scuola dell'Infanzia Don Antonio Sbaiz Sedegliano 2019:31–32).

It should be noted that this is the school that reported using expressions in English to describe the children's routine actions (e.g. let's take off our boots, let's go inside and go to the bathroom) in reply to *Question 13 (How are you exposing children to foreign languages?)*.

---

<sup>48</sup> The law regarding the learning of the Friulian language is the following: Legge statale n. 482/99 e Legge regionale n. 29/2007 e Regolamento attuativo.

## 6.3. Discussion

### 6.3.1. Contextualising the discussion

As mentioned above, the overarching aim of this research is to understand whether it is possible to introduce children to foreign languages in a forest school setting, considering the peculiar nature of such settings as compared to more traditional learning environments.

In order to make an informed assessment and interpretation of the responses given by the forest schools involved in this project, and therefore to answer the research questions, it is necessary to contextualise the research in a theoretical framework which explores some key factors in language acquisition, such as the age factor and the acquisition VS learning theory. The results of the questionnaire will then be discussed, vis à vis the research questions.

#### *i. Learning a foreign language and early education*

An important factor has to do with the age of the children attending the forest schools as the age group in question would seem to be favourable for foreign language acquisition. Indeed, a considerable amount of research and theoretical reflection exists in support of an early exposure to a second/foreign language.

The field of language acquisition research is ‘a heavily contested area’ in which various theories coexist (Pinter 2011:37). An exploration of the development of the first language (L1) in childhood is deemed important to second language teachers, too (Pinter 2011:37). Moreover, it is generally thought that the sooner a child is exposed to a foreign language, the better – but does research confirm this belief?

In the 1950s some scholars (such as Penfield and Roberts 1959) suggested that an early start in language education would be beneficial, given that studies indicated that younger children would learn better than older students (Rixon 2019:494). The notion seemed intuitive and became popular with the general public, despite the existence of some criticism in the academic field (Singleton & Ryan 2004:31).



In the following decades, and in the 1980s and 1990s in particular, certain European countries started lowering the age at which foreign languages were introduced to children from what was then common (11 or 12 years of age). Among these countries were Austria, Italy and France, as well as some Scandinavian countries, such as Denmark (Rixon 2019:496).

More recently, the issues related to learning a language *before primary school* have become topical in Europe (Rixon 2019:493).<sup>49</sup> In fact, while the main push since the 1990s has been towards plurilingualism (Rixon 2019:496), English is increasingly offered in *pre-school* educational contexts, especially in private schools (Rixon 2019:497).<sup>50</sup>

This is particularly interesting in the context of forest school research, given that many forest schools operate with children younger than six years of age.<sup>51</sup>

## *ii. Age and the Critical Period Hypothesis*

Age can be considered a key factor in the success of language acquisition. Much of the theory related to early language education has been influenced by the Critical Period Hypothesis (CPH), first suggested by the Canadian neurosurgeons Wilder Penfield & Lamar Roberts (1959) and then refined by the linguist and neurologist Eric Heinz Lenneberg (1967).<sup>52</sup>

---

<sup>49</sup> Rixon refers to the situation as of 2016: the EU countries (Austria, Belgium, Bulgaria, Croatia Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK), plus the EEA countries (Iceland, Liechtenstein, Norway) and Switzerland (2019:494).

<sup>50</sup> As previously mentioned, *plurilingualism* (as opposed to *multilingualism*, or the knowledge of multiple languages) can be defined as an approach that enables people to build ‘a communicative competence to which all knowledge and experience of language contributes and in which languages interrelate and interact’ (Council of Europe 2001:5).

<sup>51</sup> However, some scholars have demonstrated that even at an early age, the acquisition of an L2/FL is not an easy feat: on average, it takes 2 to 3 years for children to become fluent in the ‘social use’ of an L2 and between 5 and 7 years to become proficient in academic contexts (Lakshamanan 2013:72). This distinction reflects the definitions of BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency) proposed by Cummins (1979). We can assume that learning a FL can take even longer, given that there is generally less exposure because, contrarily to an L2, it is not present in the environment outside the classroom.

<sup>52</sup> The term *critical* (or *sensitive*) *period* in the field of linguistics and language teaching and learning is borrowed from the biological sciences, in which it is used to define a limited phase or time span in the development of an organism during which ‘exposure or stimulation of a certain behaviour must take place for that precise behaviour to develop in the organism’ (Abrahamsson 2013:146). If exposure or

Although certain scholars have observed that there it is deceptive to speak of ‘*the*’ Critical Period Hypothesis (Singleton 2007:48), for the purpose of this study it will be treated as a general concept.

This theory in the language learning field postulates the existence of a biologically-defined window in which the learning of a language is more efficient and successful – in other words, ‘there is a biological clock of the brain’ (Penfield and Roberts 1959:237) for language learning. Penfield and Roberts claimed that ‘for the purposes of learning languages, the human brain becomes progressively stiff and rigid after the age of nine’ (Penfield and Roberts 1959:236) and that ‘when languages are taken up for the first time in the second decade of life, it is difficult [...] to achieve a good result [...] because it is *unphysiological*’ (Penfield and Roberts 1959:255, italics added).<sup>53</sup>

Although CPH focuses on the acquisition of a second language (L2), the implications of these studies are useful to the study of foreign language (FL) acquisition.<sup>54</sup> In fact, while recent CPH

---

stimulation occur after the end of the critical period, the organism will either fail to incorporate that behaviour, or will not do it normally (Abrahamsson 2013:146 and Singleton & Ryan 2004:32).

<sup>53</sup> Lenneberg (1967) proposed that there is also a *starting or onset point* for the critical period, which he suggested was around the age of two; he also stated that around the age of 10, individuals tend to lose the ‘automatic acquisition from mere exposure to a given language’ and have to learn ‘through a conscious and labored effort’ (Lenneberg 1967:176). Lenneberg connected this time frame with the maturation of the human brain, and in particular with the process of *laterlisation* – i.e., the *specialisation* of the hemispheres, whereby one hemisphere becomes dominant for language functions. As mentioned above, this process is called *interhemispheric specialisation* and according to Lenneberg, it comes with a loss of cerebral plasticity around the age of puberty (Lenneberg 1967). Lenneberg believed that it is not laterlisation per se which hinders language acquisition – rather, it is the *loss of brain plasticity*, understood as the ‘flexibility in the neurophysiological programming of neuromuscular coordination mechanisms’ (Romaine 1988:31). However, this neurological process does *not* show a direct correlation to age, so its completion can occur anywhere between the ages of 8 and 14 (Romaine 1988:31).

<sup>54</sup> Recent research on the CPH has given conflicting results (Schmid 2011:72, see figure below) and some studies have demonstrated that age is *not as decisive a factor as is generally considered* – factors such as language aptitude should also be considered (Schmid 2011:72). While CPH is ‘a popular way of explaining the reason for apparent success of children and failure of adults in learning a second language’ (Hakuta, Bialystok & Wiley 2003:37), certain tests of CPH showed that ‘the degree of success in second-language acquisition *steadily declines* throughout the life span’ (Hakuta, Bialystok & Wiley 2003:37, emphasis added). Therefore, the *pattern* of such decline does not indicate that the ‘discontinuity that is the essential hallmark of a critical period’ (Hakuta, Bialystok & Wiley 2003:37). Instead, other factors, such as socioeconomic status and the years and quality of formal education, were identified as important predictors on how well immigrants were likely to learn a L2 (Hakuta, Bialystok & Wiley 2003:37).

studies do *not* show that there is a ‘cutoff point’ after which the acquisition of a language is dramatically hindered, research has also shown that language is represented in the brain in different ways depending on the age of acquisition (e.g. Wartenburger et al. 2003:159, see section iii. below). This would seem in keeping with the notion according to which languages can be learnt *more easily* at a very young age, when they can be processed through implicit or procedural memory (Fabbro 2004:106).

### ***iii. Language representation and neurological development***

While it can be argued that ‘both nature and nurture contribute to language acquisition’ (Rowland 2014:13), we also know that language is a ‘function’ of the human brain (Fabbro 2004:9). The representation of language in the brain happens through a gradual process which involves *lateralisation* (i.e. one of the brain hemispheres is the main processing site) and *localisation* (i.e. some brain areas are more active than others when people use a language) (Rowland 2014:14). Therefore, although the human brain is ‘configured’ for language from birth, the exact time and way in which the brain specialises, both in terms of lateralisation and of localisation, is still under study (Rowland 2014:14).

Thanks to neuroimaging, we can observe the *cerebral representation of language*. Language is thus understood as a *cognitive function*, the main components of which are phonology and syntax. In normal conditions, language is represented in the brain’s *left hemisphere* in 90% of people. Such lateralisation, which can be observed in three-month-old children, is both *physiological* and *progressive*. While both brain hemispheres can support linguistic functions in infancy and childhood, *such equipotent flexibility diminishes with age progression*: after approximately 8 years of age, there is a consolidation of the unilateral representation of language in the left hemisphere – a process called *interhemispheric specialisation* (Fabbro 2004:27,76).<sup>55</sup>

Research with neuroimaging techniques on the cerebral representation of language indicates that, despite the fact that early language acquisition (people aged 3-8 years) yields *the same* language proficiency as very early language acquisition (people younger than 3 years), there

---

<sup>55</sup> Some studies on how language is affected by left hemisphere lesions have demonstrated that children with aphasia (the inability or impaired ability to understand or produce speech, as a result of brain damage) can recover the ability to understand language and to express themselves much more successfully than adults (Fabbro 2004:26-27).

are noticeable differences on a neurobiological level in terms of brain energy use (Wartenburger et al. 2003). A study conducted by Wartenburger et al. (2003) with fMRI on Italian-German bilinguals (divided into three categories, according to the age when L2 was acquired) indicated that although linguistic *performance* of the youngest and older bilingual speakers seemed equal, the younger ones used *less cerebral energy* when using the L2 compared to the older ones.<sup>56</sup> The data from studies such as the one just mentioned seem to suggest that the sooner children start to learn a language, be it the L1, the L2 or a FL, the better their chances of mastering the language are. In fact, between 0 and 3 years of age there is a high synaptogenesis and high plasticity in the procedural memory: both processes experience a slowdown between 3 and 8 years of age (Fabbro 2004:99).<sup>57</sup>

#### *iv. The Acquisition vs learning theory*

The distinction between acquisition and learning also seems to be pertinent to the theoretical framework that informs the assessment of the research results.

Stephen Krashen (1982) suggested that there is a difference between ‘acquisition’ and ‘learning’. This distinction is the first of Krashen’s five hypotheses about second language learning. Despite the differences between the concepts of ‘second’ and ‘foreign’ language learning, Krashen’s hypotheses have also been influential in foreign language learning theory.

---

<sup>56</sup> The study allowed for the identification of three separate groups: firstly, *Early Acquisition High Proficiency* (EAHP), where the L2 was acquired before 3 years of age; secondly the *Late Acquisition High Proficiency* (LAHP), where the L2 was acquired between 3 and 8 years of age; finally, the *Late Acquisition Low Proficiency* (LLLP), where the L2 was ‘learnt’ after 8 years of age. The study was conducted on bilingual subjects with variable age of acquisition (AOA) and proficiency levels (PL), using functional magnetic resonance to investigate the effects of AOA and PL on ‘neural correlates of grammatical and semantic judgements in Italian-German bilinguals’ (Wartenburger et al. 2003:159). The findings seem to indicate that both factors influence the ‘neural substrates of second language processing, with a differential effect on grammar and semantics’ (Wartenburger et al. 2003:159).

<sup>57</sup> In any case, while these studies are interesting and should certainly be continued, it is important to remember that ‘this is a young discipline’, so the ‘implications’ for language teaching are still ‘premature’ (Lightbown & Spada 2013:113).

With regard to the ‘Acquisition-Learning Distinction’, Krashen believed this to be ‘the most fundamental’ of the five hypotheses (Krashen 1982:10). According to him, individuals have two different and independent ways of developing L2 competence:

- the first way is *acquisition*, ‘a process similar, if not identical, to the way children develop ability in their first language’ (Krashen 1982:10). It is *subconscious*, as it happens when people use language for communication, and therefore they are not focussing on form or rules. *Acquisition* can also be described as *implicit, informal or natural* learning (ibid.);
- the second way is *learning*, defined as a ‘conscious knowledge of the second language, knowing the rules, being aware of them, and being able to talk about them’ (Krashen 1982:10). *Learning* can also be described as *explicit* learning, as knowing *about* a language (grammar or rules), having *formal* knowledge (ibid.)

Given that children are particularly suited to acquisition, it is recommended that they be introduced to languages in ways that promote acquisition rather than learning. As we will see below, this is precisely what the forest schools conditions can offer.

### 6.3.2. Research question 1

#### ***Why are foreign languages being / not being presented to the children?***

Two questions were designed to shed light on this point.<sup>58</sup> As seen above, the majority of respondents from the forest schools stated that they introduce children to foreign languages; a variety of contextual factors seem to influence their decision to do so. Among such factors, schools mentioned the presence of multilingualism in the school setting and of English in everyday life, as well as the nature of the schools’ pedagogical approach (see section 6.2.5).

It should be noted that multilingualism is *not* a rare phenomenon; rather, the opposite – monolingualism – is the exception. In fact, in addition to the knowledge of so-called *dialects* (which from a neurological perspective are, in fact, languages), even monolingual people

---

<sup>58</sup>*Question 9: Why are you introducing children to a foreign language? (e.g. it is part of the pedagogical approach, parents have requested it, etc.).*

*Question 10: Why aren't you introducing children to a foreign language?*

acquire various socio-linguistic registers, which, according to some linguists, would be similarly represented in the brain as a separate language (Chomsky 1980; Paradis 1998).

Moreover, bilingual or multilingual education and immersion education have been shown to be advantageous.<sup>59</sup> As mentioned above (4.3.1), the Council of Europe promotes the development of *plurilingualism*, understood not as the knowledge of multiple languages, but as a ‘linguistic repertory’ that includes the knowledge of a variety of languages, although not necessarily their mastery (Council of Europe 2001:5). Similarly, the Italian national guidelines (MIUR 2012 and 2017) recommend helping children develop plurilingualism by exploiting the potential of everyday situations (MIUR 2012:27-28).<sup>60</sup>

Therefore, we may expect the linguistic context in which forest schools are immersed and the pedagogical focus to contribute to each school’s decision regarding whether to introduce children to foreign languages.

### 6.3.3. Research question 2

#### *How can foreign language learning be promoted in such settings?*

---

<sup>59</sup> Although bilingual education has been common since classical antiquity (in the Ancient Greek and Roman worlds), the topic of *bilingual education for children* has been explored as an independent subject only since the 20th century. Some detractors of teaching languages in early infancy, such as Otto Jespersen (1860-1943), believed that the simultaneous acquisition of two languages had negative effects on the cognitive and emotional development of the child. On the other hand, bilingual education was supported by scholars such as Wilder Penfield and Wallace Lambert (1950s-1960s), who observed the development of bilingualism in their own children. A study carried out in the 1970s (following a model previously tested by Peal and Lambert in 1962, which concluded that bilingual children ‘[...] appear to have a more diversified set of mental abilities than the monolinguals’ (Peal & Lambert 1962:abstract) demonstrated that there were *no significant differences in terms of brain development* between the development of monolingual and bilingual children (Fabbro 2004:111–114). In the same years in Italy Renzo Titone and Giuseppe Francescato were defending early bilingual education as the only way for children to achieve linguistic proficiency easily. In fact, according to Titone (1972) and Francescato (1970) early language immersion (before 10 years of age) would lead to ‘native language’ proficiency (even from a phonological and syntactic perspective), as well as to a greater openness to different cultures and cultural awareness; moreover, any differences or gaps in the proficiency between the language systems acquired by an individual would become less important with the passing of time, parallel to the increase in his or her general culture. More recently, scholars have praised the benefits of the development of a ‘bilingual personality’ – a psychological condition that enables the individual to use all the languages at his or her disposal to shape his or her understanding of the world (Balboni 2012:91).

<sup>60</sup> See section 4.3.2. *Italy and national guidelines: nursery school, primary school* (above).

Four questions were designed to shed light on this point.<sup>61</sup> Of importance is the role that the learning conditions play, especially in respect of the organisational choices regarding exposure to the foreign language. Forest schools adopt an array of different organisational strategies to expose the children to the foreign language.

In fact, although the notion of CPH has been influential in the field of language acquisition studies, it is still debated and many experts in the fields of language teaching and education have now shifted the focus from the sole idea of ‘optimum age’ to that of ‘optimum conditions’. Such conditions might include ‘adequate *exposure* to the language within the curriculum, activities which are *engaging* and lead to *interaction* and, above all, language use that is *meaningful* to the learners’ (Rixon 2019:498, italics added).<sup>62</sup>

Frequency of exposure is a crucial factor in language acquisition. Research has shown that children are exposed to social interactions in their first language for an average of 16 hours a day, which adds up to 100 hours a week and 5.840 hours a year (Fleta 2012:19). Conversely, their exposure to a FL in an educational setting is very limited: children participate in FL activities for a few hours a week (generally between 2 and 5). Evidently, the comparison between L1 and FL exposure shows an overwhelming difference in terms of time.

It has been suggested that it is more beneficial to involve the children in short activities every day, rather than in longer ones a few times a week (Favaro 2016:89). Similarly, Titone (1973) argues that a few minutes of exposure to the FL a day (10-15 minutes) is likely to be more beneficial than an ‘intensive’ course of 10 hours a week (Titone 1973:15-16). A good balance

---

<sup>61</sup> 11. *How frequently are the children exposed to foreign languages? (every day; twice a week; once a week; once every few weeks; once a month; less than once a month; never; other);*

12. *How many hours a week are the children exposed to foreign languages? (more than 5; between 4 and 5; between 3 and 4; between 2 and 3; between 1 and 2; less than 1; 0; other);*

13. *How are you exposing the children to foreign languages? (routines / songs or actions that are always the same, e.g. hello song, goodbye song); songs; games; storytelling; books; teacher-led ‘lessons’ about specific topics; we are NOT exposing the children to foreign languages; other);*

14. *Is the foreign language ‘teacher’ internal or external to the school? (internal (the teacher works with the children every day and is part of the regular staff); external (the teacher comes to the school only to interact with the children in the foreign language); other).*

<sup>62</sup> Similarly, Moon suggests that the following conditions need to be considered: time, exposure, real need for English (or another FL), variety of input, meaningful input (Moon 2000:1-2).

would be a daily session of 30 minutes each, because that would ensure frequent exposure, and allow the children to be focussed during the sessions (ibid.). In Italy, these optimal circumstances can be implemented mainly in nursery school or preschool ('scuola dell'infanzia') and would seem also to be implemented in the forest schools investigated.<sup>63</sup>

Moreover, it has been shown that languages are learnt better when they are used in routine situations and in meaningful social experiences. As the answers to the questionnaire shows, in forest schools the FL is introduced as part of the pedagogical approach and in a natural way: songs, routines, games, books and storytelling. This is in line with numerous experiences underway and with studies that have been produced providing indications as to how foreign/second languages can be promoted in such settings.

In fact, in recent years, European pre-schools and educational settings for the preschool age have begun to include languages such as English in their curriculum. While it may be argued that introducing young children to FL is beneficial, the real issue is *how* to do it (Coonan 2001:47). Any approach taken must take into account the pedagogical context in which the children are immersed. For example, the Italian pedagogical framework for nursery schools posits the child at the centre; therefore, everything must be done for the child's benefit, catering to the child's rhythm, interests and individuality. Thus, it is only natural that the presentation of a foreign language must adapt to the underlying pedagogical philosophy (Coonan 2001:48). Coonan (2001) suggests that in infant or nursery school, children increasingly develop an *awareness* of their surroundings, as well as a sense of self; therefore, their encounter with a foreign language should promote this awareness (Coonan 2001:49). It follows that the approach to the foreign language needs to be as *natural* and *holistic* as possible, as close to the child's experience with his or her native language as it can possibly be.

Renzo Titone (1973) answered the question as to how FL should be presented to children, and it may be argued that his guidelines are still valid almost 50 years later. Titone's guidelines are the following:

1. learning should happen through *immersion* in the FL, in real-life situations/scenarios.

---

<sup>63</sup> As mentioned above (6.2.6.), the responses to the questionnaire seem to indicate that almost half of the schools involved in the project expose the children to foreign language every day.



This would promote ‘direct absorption’ of the FL (1973:17) and could be done according to a ‘one language, one person’ approach (1973:18);

2. *a systematic approach* to learning should support and complement immersion.

This systematic approach would involve the following:

- a. structuring the programme so that vocabulary and language structures/grammar would be presented *progressively*, depending on criteria such as frequency of use, elements in common with the L1, the children’s interests, and difficulty of assimilation.
- b. *orality* (listening and speaking) should be prioritised over reading and writing;
- c. progress in acquisition should not be based upon supposed ‘difficulty’ of the language structures, but in the gradual development of structures and vocabulary through *imitation and analogy*, in order to ensure that language becomes ‘stable’ thanks to frequency and repetition;
- d. a language course should involve *cultural elements* that would enable children to develop openness and understanding for other cultures.

(Titone 1973:17-19)

Paolo Balboni (2012:93-95) also offers five guidelines to ‘early’ language teaching:

1. The integration of the foreign language within the curriculum;
2. Flexibility in the approach, the methods, the techniques, in order to cater to a variety of cognitive styles and learning styles;
3. Sense-based learning: children should be able to touch, smell, taste, and in general experience the foreign language in tangible ways;
4. Movement-based learning: children should be able to get up, move around, run, play;
5. Playfulness: because children learn through play, it must be privileged in language learning, too.

(Balboni 2012:93-95)

The research carried out with the forest schools highlights that many of these recommendations are in place.

#### **6.3.4. Research question 3**

*What ‘outcomes’ can be observed, and what problems can arise?*

A set of questions was designed to shed light onto the outcomes and problems related to language learning in a forest school setting.<sup>64</sup>

In terms of problems, one of the main issues mentioned by the forest schools involved in the investigation is the lack of qualified teachers – teachers with the necessary competences to introduce a foreign language into their curriculum. This is a major obstacle to the success of foreign language learning on the part of the children.

In fact, given that the main source of FL input in educational settings is the teacher, the choices the teacher makes are very likely to have a crucial influence on the children’s foreign language learning experience. In order for children to benefit from this type of exposure, their teachers need to be *prepared* to introduce the FL in these routine actions. This requires a variety of skills on the part of the teacher, including pedagogical skills, skills related to language-teaching, and obviously proficiency in the FL (Favaro 2016:90).

The difficulty in finding a teacher who can offer high pedagogical and linguistic skills is far from recent. As mentioned above (4.3.2), almost 50 years ago Renzo Titone noted that teaching a foreign language to children requires a very high teaching competence on the part of the teacher (Titone 1973:13): enthusiasm and willingness are not enough – they need to be paired with sound linguistic knowledge (including pronunciation) and specific teaching skills for young children. However, this poses the question: where can such teachers be found, and what sort of training do they require? As stated above (4.3.2), in Italy only the teachers who have graduated since 2010 have been required to pass language exams at a B2 level (MIUR 2010:24).

---

<sup>64</sup>15. *What ‘results’ or outcomes have you observed? (e.g. how receptive do children seem to the activities in the foreign language?)*

16. *What challenges have you faced or are you currently facing? (lack of qualified teachers who are also willing to interact with the children in a foreign language; foreign languages are difficult to integrate in the curriculum; the children do not respond well to activities in the foreign language; ‘imposing’ a foreign language runs contrary to the school’s pedagogical principles; other)*

17. *Have you solved any problems so far?*

18. *How did you solve the above-mentioned problems?*

Another issue that transpired seemed to be connected with the idea that ‘organising’ language learning can be particularly challenging in forest schools and that integrating foreign languages into the curriculum can be difficult (see 6.2.8.). However, it seems that forest schools have already overcome some challenges related to the promotion of language acquisition. Moreover, the responses according to which the children use the language they have been exposed to in creative ways seem to suggest that language acquisition in forest schools can deliver very positive results.

#### **6.4. Ideas for further research**

As mentioned in the introduction to this section, it seems that more research could be conducted on the topic of language learning in forest schools or other outdoor learning settings. In any case it would seem advisable to adopt an interdisciplinary approach that would not only consider language learning theories and practices, but also pedagogy and sociolinguistics, especially for areas in which more than one language is spoken. The use of a questionnaire is replicable and can be changed or adapted to suit different contexts. Therefore, a similar method could be employed, but interviews with forest school leaders or educators, as well as field work and language documentation, would also be likely to provide valuable data.

## CONCLUSION

The aim of this research project was to offer an initial perspective on how foreign language learning can be promoted in an outdoor education context, and in particular in forest schools.

The initial feedback seems to indicate that foreign language learning can be encouraged in forest schools, and that in some forest schools it is already being fostered. In most of the cases considered, children are exposed to foreign languages by means of strategies involving the use of routines, games, storytelling and book reading, rather than the delivery of lessons. It seems that quantifying the frequency and length of exposure to foreign languages can prove difficult in forest schools, chiefly due to the fact that foreign language activities are integrated into an emergent curriculum and not necessarily confined to pre-planned time slots. Nevertheless, the majority of the forest schools reported that the children respond positively to activities in a foreign language, by showing openness and enthusiasm, and even by actively reusing the foreign language with each other in routine situations and play. The schools involved in the research project identified some common challenges, including a lack of qualified teachers and the fact that, in the forest school context, the 'imposition' of activities in a foreign language is contrary to the underlying educational approach. Finally, the majority of the participating schools either plan to continue to use their current approach, or hope to add further language learning opportunities for the children's benefit. Overall, the research suggests that while not all outdoor education providers or forest schools include foreign language learning in their offer, those that do seem to have developed strategies or programmes that can encourage foreign language learning in an outdoor setting.

The results of this research would seem to indicate that the topic of language learning in outdoor education contexts still holds much room for development, especially in light of the increasing popularity of forest school approaches in education. A research project such as the present one could be totally or partially replicated in order to gain additional information, with questionnaires being posed to forest schools in other countries and in different languages around the world. Moreover, the use of other research methods, such as field evidence and detailed interviews, might provide further valuable insight into the challenges and possibilities of learning foreign languages in an outdoor context.



## REFERENCES

- American Forest Kindergarten Association: <<https://www.forestkindergartenassociation.org>>  
Accessed 04/04/2021.
- Abrahamsson, N. (2013) 'Critical Period Hypothesis (CPH)', in Robinson, P. (ed) *The Routledge Encyclopedia of Second Language Acquisition*, pp. 146-151. Oxon/New York: Routledge.
- Åkeson McGurk, L. (2017) *There's No Such Thing as Bad Weather*. New York: Touchstone.
- Allison, D. (12/12/2019) 'The children learning to love being outdoors', in *BBC News* (online).  
Accessed 10/02/2020 from: <<https://www.bbc.com/news/uk-scotland-50745314>>
- Antonietti, M. (2018) 'European preschools in nature. Principles and evidence in international references. Scuole dell'infanzia in natura. Principi e riscontri empirici nella letteratura internazionale', in *Form@re – Open Journal per la formazione in rete*, Vol. 18, n. 1, pp. 357-367. Firenze: Firenze University Press.
- Antonietti, M. (2017) 'I Waldkindergarten. Evoluzione e complessità educativa', in Antonietti M., Bertolino F. (a cura di) *A tutta natura! Nuovi contesti formativi all'aria aperta per l'infanzia di oggi*, pp. 33-80. Bergamo: Edizioni Junior.
- Antonietti M., Bertolino F. (a cura di) (2017) *A tutta natura! Nuovi contesti formativi all'aria aperta per l'infanzia di oggi*. Bergamo: Edizioni Junior.
- Balboni, P. (2012) *Le Sfide di Babele: Insegnare le Lingue Nelle Società Complesse* (3rd edn.). Torino: UTET.
- Barrable, A. & Arvanitis, A. (2018) 'Flourishing in the forest: looking at Forest School through a self-determination theory lens', in *Journal of Outdoor and Environmental Education* (2019) 22, pp. 39-55. Accessed 16/09/2020 from: <<https://link.springer.com/article/10.1007/s42322-018-0018-5>>

Bellafante, G. (2020) 'Schools Beat Earlier Plagues With Outdoor Classes. We Should, Too', in *The New York Times* (online). Published 17/07/2020, updated 20/07/2020. Accessed 24/08/2020 from: <<https://www.nytimes.com/2020/07/17/nyregion/coronavirus-nyc-schools-reopening-outdoors.html>>

Bellizzi, T. (2020) 'A Biccari (Foggia) la scuola si fa nel bosco: ecco la classe immersa nella natura', in *La Repubblica* (online). Published 16/05/2020. Accessed 09/01/2021 from: <[https://bari.repubblica.it/cronaca/2020/05/16/foto/a\\_biccari\\_foggia\\_la\\_scuola\\_si\\_fa\\_nel\\_bosco-256812209/1/](https://bari.repubblica.it/cronaca/2020/05/16/foto/a_biccari_foggia_la_scuola_si_fa_nel_bosco-256812209/1/)>

Bentsen, P., Mygind, E. & Randrup, T. (2009) 'Towards an understanding of udeskole: Education outside the classroom in a Danish context', in *Education 3-13*, 37 (1), pp. 29-44.

Berk, L. E. (1989/2013) *Child Development* (9th ed.). Boston: Pearson.

Biermeier, M. A. (2015) 'Preschool: Inspired by Reggio Emilia: Emergent Curriculum in Relationship-Driven Learning Environments', in *Young Children*, 70 (05), pp. 72-79. Accessed 19/08/2020 from: <[https://www.jstor.org/stable/pdf/ycyoungchildren.70.5.72.pdf?ab\\_segments=0%252Fbasic\\_SYC-5187\\_SYC-5188%252F5188](https://www.jstor.org/stable/pdf/ycyoungchildren.70.5.72.pdf?ab_segments=0%252Fbasic_SYC-5187_SYC-5188%252F5188)>

Bruchner, P. (2017) *Bosquescuola: Guía para la educación infantil al aire libre*. Cullera: Ediciones Rodeno.

Bruner, J. S. (1983) *Child's Talk: Learning to Use Language*. Oxford: Oxford University Press.

Bruner, J. S. (1974) 'The growth of representational processes in childhood', in Anglin, J. M. (editor) *Beyond the Information Given*. London: George Allen & Unwin.

Bruner, J. S. (1960) *The Process of Education*. Cambridge, MA; London, England: Harvard University Press.

Butler, Y. G. (2019) 'Gaming and Young Learners', in Garton, S. & Copland, F. (eds) *The Routledge Handbook of Teaching English to Young Learners*, pp. 305-319. Oxon/New York: Routledge.

Camaioni, L. & Di Blasio, P. (2002/2007) *Psicologia dello sviluppo*. Bologna: Società Editrice il Mulino.

Casertano, D. (2020) 'Outdoor education, una questione di equilibrio', in *UPPA Magazine*, XX (6), pp.42-43.

Charles, C. (2015) 'Worldwide', in Guerra, M. (ed.) *Fuori: Suggestioni nell'incontro tra educazione e natura*. Milano: Franco Angeli Editore.

Child and Nature Alliance of Canada: <<https://childnature.ca/about>> Accessed 04/04/2021.

Children & Nature Network: <<https://www.childrenandnature.org/>> Accessed 04/04/2021.

Chomsky, N. (1980) *Rules and Representations*. New York: Columbia University Press.

Chomsky, N. (1957) *Syntactic Structures*. The Hague: Mouton Publishers.

Christle, C. A. (2017) 'Montessori Schools', in *Encyclopedia Britannica*. Accessed 06/08/2020 from: <<https://www.britannica.com/topic/Montessori-schools>>

Cohen, D. (2013) *How the Child's Mind Develops*. 2nd edition. Hove: Routledge.

Coluccelli, S. e Pietrantonio, S. (2017) *Il metodo Montessori oggi: Riflessioni e percorsi per la didattica e l'educazione*. Trento: Erickson.

Coonan, C. M. (2001) 'L'inglese come lingua straniera nella scuola dell'infanzia', in Balboni, P. E., Coonan, C. M., Ricci Garotti, F. (a cura di), *Lingue straniere nella Scuola dell'Infanzia*, pp. 47-90. Perugia-Welland: Guerra-Soleil.



Corso di Perfezionamento in Outdoor Education:

<[https://masterschool.lumsa.it/altri\\_corsi\\_formazione\\_outdoor\\_education](https://masterschool.lumsa.it/altri_corsi_formazione_outdoor_education)>

Council of Europe (2001) *The Common European Framework in its political and educational context*. Council for Cultural Co-operation. Education Committee. Modern Languages Division, Strasbourg. Cambridge: Cambridge University Press. Accessed 15/03/2020 from: <<http://assets.cambridge.org/052180/3136/sample/0521803136ws.pdf>>

Cristal, D. (2020) 'Language', in *Encyclopaedia Britannica*. Accessed 19/07/2020 from: <<https://www.britannica.com/topic/language>>

Cummins, J. (1979) 'Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters', in *Working Papers on Bilingualism*, 19, pp. 121-129. Accessed 23/07/2020 from: <<https://eric.ed.gov/?id=ED184334>>

Curtis, S. J. (2020) 'Friedrich Froebel', in *Encyclopaedia Britannica*. Accessed 08/02/2020 from: <<https://www.britannica.com/biography/Friedrich-Froebel>>

Daniels, H., Cole, M. & Wertsch, J.V. (eds) (2007) *The Cambridge Companion to Vygotsky*. New York: Cambridge University Press.

Dewey, J. (1897) 'My Pedagogic Creed', in *School Journal* vol. 54 (January 1897), pp. 77-80.

Dewey, J. & Dewey, E. (1915) *Schools of To-morrow*. New York: E.P. Dutton & Company.

Editors of Encyclopaedia Britannica (2021) 'Ekistics', in *Encyclopedia Britannica*. Accessed 02 February 2021 from: <<https://www.britannica.com/topic/ekistics>>

Editors of the Encyclopedia Britannica (2020) 'Maria Montessori', in *Encyclopedia Britannica*. Accessed 06/08/2020 from: <<https://www.britannica.com/biography/Maria-Montessori>>

Eurydice (2017) *Key Data on Teaching Languages at School in Europe – 2017 Edition*. Eurydice Report by the European Commission. Luxembourg: Publications Office of the

European Union. Accessed 19/06/2020 from: <<https://op.europa.eu/en/publication-detail/-/publication/73ac5ebd-473e-11e7-aea8-01aa75ed71a1/language-en/format-PDF>>

Fabbro, F. (2004) *Neuropedagogia delle lingue: come insegnare le lingue ai bambini*. Roma: Casa Editrice Astrolabio.

Favaro, L. (2016) 'Verso l'insegnamento precoce', in Melero Rodríguez, A. (ed.) *Le lingue in Italia, le lingue in Europa: dove siamo, dove andiamo*, pp. 87-94. Venice: Edizioni Ca' Foscari. Accessed 24/06/2020 from: <<https://edizionicafoscari.unive.it/media/pdf/books/978-88-6969-073-0/978-88-6969-073-0-ch-06.pdf>>

Fjørtoft, I. (2004) 'Landscape as Playscape: The Effects of Natural Environments on Children's Play and Motor Development', in *Children, Youth and Environments*, 14(2), pp. 21-44. Accessed 20/08/2020 from: <[https://www.researchgate.net/publication/252182057\\_Landscape\\_as\\_Playscape\\_The\\_Effects\\_of\\_Natural\\_Environments\\_on\\_Children%27s\\_Play\\_and\\_Motor\\_Development](https://www.researchgate.net/publication/252182057_Landscape_as_Playscape_The_Effects_of_Natural_Environments_on_Children%27s_Play_and_Motor_Development)>

Fleta, T. (2012) 'Factors Concerning Early EFL Learning at School', in *IATEFL Young Learners & Teenagers SIG C&TS*, Spring, pp. 18-19 and 31-32.

Forest School Association (FSA): <<https://www.forestschoollassociation.org/>> Accessed 04/04/2021.

Forestry Commission Scotland (2009) *Physical Activity at Forest School*. Accessed 20/08/2020 from: <[https://www.owlsotland.org/images/uploads/resources/files/Physical\\_Activity\\_at\\_Forest\\_School\\_Research.pdf](https://www.owlsotland.org/images/uploads/resources/files/Physical_Activity_at_Forest_School_Research.pdf)>

Francescato, G. (1970) *Il linguaggio infantile. Strutturazione e apprendimento*. Torino: Einaudi.

Friluftets Främjandet<<https://www.friluftetsframjandet.se/in-english>> Accessed 04/04/2021.

Gandini, L. (2011) 'Play and the Hundred Languages of Children', in *American Journal of Play* 4 (1), pp. 1-18. Accessed 19/08/2020 from: <[www.journalofplay.org/files/pdf-articles/4-1-interview-gandini.pdf](http://www.journalofplay.org/files/pdf-articles/4-1-interview-gandini.pdf)>

Gibbons, P. (2013) 'Scaffolding' in Robinson, P. (ed) *The Routledge Encyclopedia of Second Language Acquisition*. Oxon/New York: Routledge, pp. 563-564.

Gill, T. (2011) *Children and Nature: A Quasi Systematic Review of the Empirical Evidence – A Report to the Sustainable Development Commission*. London: Greater London Authority. Accessed 28/10/2020 from: <<https://timrgill.files.wordpress.com/2011/11/children-and-nature-literature-review.pdf>>

Gorges, R. (2002) *Waldkindergartenkinder im ersten Schuljahr - Eine empirische Untersuchung*. Accessed 14/06/2020 from: <[http://bvnw.de/wp-content/uploads/2013/04/Prof\\_Gorges\\_Schulfhigkeit.pdf](http://bvnw.de/wp-content/uploads/2013/04/Prof_Gorges_Schulfhigkeit.pdf)>

Grahn, P. (1996) 'Wild nature makes children healthy', in *Swedish Building Research* 4, 16-18.

Gray, P. (2015) *Mother Nature's Pedagogy: Insights from Evolutionary Psychology*. Accessed 14/03/2020 from: <[https://www.youtube.com/watch?v=G2BAJ\\_svbhA&t=29s](https://www.youtube.com/watch?v=G2BAJ_svbhA&t=29s)>

Gray, P. (2013) *Free to Learn. Why Unleashing the Instinct to Play Will Make Our Children Happier, More Self-Reliant, and Better Students for Life*. New York: Basic Books.

Gregory, A. (2017) 'Running Free in Germany's Outdoor Preschools', in *The New York Times*, May 18th 2017. Accessed 08/02/2020 from <<https://www.nytimes.com/2017/05/18/t-magazine/germany-forest-kindergarten-outdoor-preschool-waldkitas.html>>

Hakuta, K., Bialystok, E. & Wiley, E. (2003) 'Critical Evidence: A Test of the Critical-Period Hypothesis for Second-Language Acquisition', in *American Psychological Society*, 13(1), pp. 31-38. Accessed 21/06/2020 from: <<https://journals.sagepub.com/doi/pdf/10.1111/1467-9280.01415>>

Harris, F. (2017) 'The nature of learning at forest school: practitioners' perspectives', in *Education 3-13*, 45 (2), pp. 272-291. Accessed 23/10/2020 from: <<https://www.tandfonline.com/doi/pdf/10.1080/03004279.2015.1078833?needAccess=true>>

Irish Forest School Association (IFSA): <<https://irishforestschoollassociation.ie/>> Accessed 04/04/2021.

Jewett, P. C. (2019) 'Waldorf school', in *Encyclopaedia Britannica*. Accessed 17/08/2020 from: <<https://www.britannica.com/topic/Waldorf-school>>

Jones, E. (2012) 'The Emergence of Emergent Curriculum', in *Young Children*, 67(2), pp. 66-68. Accessed 19/08/2020 from: <[https://www.jstor.org/stable/pdf/42731156.pdf?ab\\_segments=0%252Fbasic\\_SYC-5187\\_SYC-5188%252F5188](https://www.jstor.org/stable/pdf/42731156.pdf?ab_segments=0%252Fbasic_SYC-5187_SYC-5188%252F5188)>

Keckes, I. & Albertazzi, L. (2007) *Cognitive Aspects of Bilingualism*. Dordrecht: Springer.

Knight, S. (2009) *Forest Schools and Outdoor Learning in the Early Years*. London: Sage.

Krashen, S. D. (1982) *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon Press.

Kuhl, P. (2010) 'Brain Mechanisms in Early Language Acquisition', in *Neuron* 67:713, pp. 713-727. Accessed 25/06/2020 from: <[https://secure.edweek.org/media/kuhl\\_2010.pdf](https://secure.edweek.org/media/kuhl_2010.pdf)>

Lakshmanan, U. (2013) 'Child Second Language Acquisition' in Robinson, P. (ed) *The Routledge Encyclopedia of Second Language Acquisition*. Oxon/New York: Routledge, pp. 71-75.

Lantolf, J. (2006) 'Sociocultural theory and L2: State of the art', in *Studies in Second Language Acquisition*, 28(1), pp. 67-109. Accessed 16/06/2020 from: <<https://doi.org/10.1017/S0272263106060037>>

Larsen-Freeman, D. & Long, M. (1991) *An Introduction to Second Language Acquisition*

*Research*. Harlow: Longman.

Lenneberg, E. H. (1967) *Biological foundations of language*. New York: John Wiley and Sons.

Lightbown, P.M. & Spada, N. (2013) *How Languages are Learned* (4th ed.). Oxford: Oxford University Press.

Louv, R. (2015) *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*. Chapel Hill: Algonquin Books of Chapel Hill.

Lucas, B. (2020) 2 ‘Cuando el maestro es el bosque o la playa’, in in *El País (online)*. Published 18/11/2020 (online). Accessed on 18/11/2020 from:

<<https://elpais.com/educacion/2020-11-14/cuando-el-maestro-es-el-bosque-o-la-playa.html>>

Lucas, B. (2020) 1 ‘El aire libre como aliado para una vuelta a las aulas diferente’, in *El País (online)*. Published 03/06/2020 (online). Accessed 20/11/2020 from:

<<https://elpais.com/sociedad/2020-06-02/las-escuelas-bajaran-convertir-el-entorno-en-su-nueva-aula.html>>

Maynard, T. (2007) ‘Forest Schools in Great Britain: an initial exploration’, in *Contemporary Issues in Early Childhood*, 8(4), pp. 320-331. Accessed 13/10/2020 from:

<[https://www.avontyrrell.org.uk/uploaded/Contemporary\\_Issues\\_in\\_Early\\_Childhood\\_MAY\\_NARD\\_2007.pdf](https://www.avontyrrell.org.uk/uploaded/Contemporary_Issues_in_Early_Childhood_MAY_NARD_2007.pdf)>

McCree, M., Cutting, R. & Sherwin, D. (2018) ‘The Hare and the Tortoise go to Forest School: taking the scenic route to academic attainment via emotional wellbeing outdoors’, in *Early Childhood Development and Care*, 188 (7), pp. 980-996. Accessed 20/08/2020 from:

<<https://www.tandfonline.com/doi/pdf/10.1080/03004430.2018.1446430>>

MIUR (2017) *Indicazioni Nazionali per il curricolo della scuola dell’infanzia e del primo ciclo d’istruzione*. Accessed 25/06/2020 from:

<<https://www.miur.gov.it/documents/20182/0/Indicazioni+nazionali+e+nuovi+scenari/>>

MIUR (2012) *Indicazioni Nazionali per il curriculum della scuola dell'infanzia e del primo ciclo d'istruzione*. Accessed 25/06/2020 from: <[http://www.indicazioninazionali.it/wp-content/uploads/2018/08/Indicazioni\\_Annali\\_Definitivo.pdf](http://www.indicazioninazionali.it/wp-content/uploads/2018/08/Indicazioni_Annali_Definitivo.pdf)>

MIUR (2010) *DECRETO 10 settembre 2010, n. 249*. Accessed 04/01/2021 from: <[http://www.miur.it/documenti/universita/offerta\\_formativa/formazione\\_iniziale\\_insegnanti\\_corsi\\_uni/dm\\_10\\_092010\\_n.249.pdf](http://www.miur.it/documenti/universita/offerta_formativa/formazione_iniziale_insegnanti_corsi_uni/dm_10_092010_n.249.pdf)>

Montessori, M. (1948) *The Discovery of the Child*. Trans. Mary A. Johnstone. Adder, Madras, India: Kalakshetra.

Moon, J. (2000) *Children Learning English*. Oxford: Macmillan-Heinemann.

Moumouni, A., Gelpi, E., & Others (2019) 'Education', in *Encyclopaedia Britannica*. Accessed 08/02/2020 from: <<https://www.britannica.com/topic/education/Froebel-and-the-kindergarten-movement#ref303064>>

Negro, S. (2019) *La pedagogia del bosco: Educare alla natura per crescere bambini liberi e sani*. Firenze: Terra Nuova Edizioni.

Nilsson, K., Sangster, M., Gallis, C., Hartig, T., de Vries, S., Seeland, K., Schipperijn, J. (eds.) (2011) *Forests, Trees and Human Health*. Dordrecht: Springer.

O'Brien, L., Burls, A., Bentsen, P., Hilmo, I., Holter, K., Haberling, D., Pirnat, J., Sarv, M., Vilbaste, K., McLoughlin, J. (2011) 'Outdoor Education, Life Long Learning and Skills Development in Woodlands and Green Spaces: The Potential Links to Health and Well-Being', in Nilsson, K., Sangster, M., Gallis, C., Hartig, T., de Vries, S., Seeland, K., Schipperijn, J. (eds.) *Forests, Trees and Human Health*, pp. 343-372. Dordrecht: Springer.

O'Brien, L. (2009) 'Learning outdoors: the Forest School approach', in *Education 3-13*, 37(1), pp. 45-60. Accessed 15/06/2020 from: <<https://www.tandfonline.com/doi/full/10.1080/03004270802291798?needAccess=true&instName=Ca%27+Foscari+University+of+Venice>>

O'Brien, L. & Murray, R. (2007) 'Forest Schools and its impacts on young children: Case studies in Britain', in *Urban Forestry & Urban Greening* 6 (2007), pp. 249-265. Accessed 15/06/2020 from: <[https://www.ncn.ie/images/headers/earlychildhoodmodels/Forest-School-and-its-impacts-on-young-children\\_O'Brien\\_Murray-2007.pdf](https://www.ncn.ie/images/headers/earlychildhoodmodels/Forest-School-and-its-impacts-on-young-children_O'Brien_Murray-2007.pdf)>

O'Brien, L. & Murray, R. (2006) *A marvellous opportunity for children to learn. A participatory evaluation of Forest Schools in England and Wales*. Forest Research, Farnham. Accessed 15/06/2020 from: <<https://www.forestresearch.gov.uk/documents/805/fr0112forestschoolsreport.pdf>>

Paradis, M. (1998) 'Language and communication in multilinguals', in Stemmer, B. & Whitaker, H. (eds) *Handbook of Neurolinguistics*, pp. 417-430. Orlando: Academic Press.

Peal, E. & Lambert, W. (1962) 'The relation of bilingualism to intelligence', in *Psychological Monographs: General and Applied*, 76(27), pp. 1-23. Accessed 25/06/2020 from: <<https://doi.org/10.1037/h0093840>>

Penfield, W. & Roberts, L. (1959) *Speech and brain mechanisms*. Princeton: Princeton University Press.

Pinter, A. (2011) *Children Learning Second Languages*. London: Palgrave Macmillan.

Priest, S. (1986) 'Redefining Outdoor Education: A Matter of Many Relationships', in *Journal of Environmental Education* 17(3), pp. 13-15. Accessed 07/07/2020 from: <<https://www.d.umn.edu/~kgilbert/educ5165-731/Readings/Redefining%20Outdoor%20Education.pdf>>

Raimo, C. (2020) 'Un confronto sui concorsi straordinari della scuola', in *Internazionale*, 22 May. Accessed 04/01/2021 from: <<https://www.internazionale.it/opinione/christian-raimo/2020/05/22/concorsi-scuola>>

Reggio Children S.r.l. (2020) *Reggio Emilia Approach* (website). Accessed 30/05/2020 from: <<https://www.reggiochildren.it/en/reggio-emilia-approach/>>

Richardson, T. (2014) *Speech and language development in a Forest School environment: an action research project*. *Sage Research Methods Cases*. Accessed 14/06/2020 from:

<<https://study.sagepub.com/sites/default/files/speech-language-development-forest-school-environment-action-research.pdf>>

Rixon, S. (2019) 'Teaching English to young learners in Europe', pp. 493-507 in Garton, S. & Copland, F. (eds) *The Routledge Handbook of Teaching English to Young Learners*. Oxon/New York: Routledge.

Robertiello, F. (2020) 'Un'aula all'aperto per giocare in sicurezza: a Paderno Dugnano l'iniziativa di una scuola dell'infanzia', in *La Repubblica* (online). Published 12/09/2020.

Accessed 09/01/2020 from:  
<[https://milano.repubblica.it/cronaca/2020/09/12/news/aula\\_nel\\_bosco\\_scuola\\_aperto\\_paderno\\_dugnano-266987769/](https://milano.repubblica.it/cronaca/2020/09/12/news/aula_nel_bosco_scuola_aperto_paderno_dugnano-266987769/)>

Robinson, K. (2010) *Changing Education Paradigms*. Accessed 06/02/2020 from  
<[https://www.ted.com/talks/sir\\_ken\\_robinson\\_changing\\_education\\_paradigms](https://www.ted.com/talks/sir_ken_robinson_changing_education_paradigms)>

Romaine, S. (1988) *Pidgin and Creole Languages*. Harlow: Longman.

Rossi, M. & Antonietti, M. (2017) 'Tracce di educazione all'aperto in Italia: un commento introduttivo', pp. 131-138, in Antonietti M., Bertolino F. (a cura di), (2017) *A tutta natura! Nuovi contesti formativi all'aria aperta per l'infanzia di oggi*. Bergamo: Edizioni Junior.

Rowland, C. (2014) *Understanding Child Language Acquisition*. Milton Park, Abingdon, Oxon: Routledge.

Salvo, M. (2017) 'Asili nel bosco: dove trovarli e come funzionano', in *La Repubblica* (online). Published 14/02/2017. Accessed 09/01/2021 from:  
<[https://d.repubblica.it/attualita/2017/02/10/news/come\\_crescere\\_bambini\\_felici\\_asilo\\_nel\\_bosco\\_danimarca\\_come\\_aprire\\_un\\_asilo\\_nel\\_bosco\\_dove\\_trovare\\_asilo\\_nel\\_bosco\\_italia\\_pi-3418803/](https://d.repubblica.it/attualita/2017/02/10/news/come_crescere_bambini_felici_asilo_nel_bosco_danimarca_come_aprire_un_asilo_nel_bosco_dove_trovare_asilo_nel_bosco_italia_pi-3418803/)>



Schenetti, M., Salvaterra, I., Rossini, B. (2015) *La scuola nel bosco: pedagogia, didattica e natura*. Trento: Erikson.

Schmid, M. (2011) *Language Attrition*. Cambridge: Cambridge University Press.

Scuola dell'Infanzia Don Antonio Sbaiz Sedegliano (2019) *Piano Triennale dell'Offerta Formativa (Anni Scolastici 2019/2022)*. Accessed 24/11/2020 from: <<http://scuolainfanziasbaiz.it/documenti/>>

Siegler, R. S. (1996) *Emerging Minds: The Process of Change in Children's Thinking*. New York: Oxford University Press.

Singleton, D. (2007) 'The Critical Period Hypothesis: some problems', in *Interlingüística* 17 (2007), pp. 48-56. Accessed 03/06/2020 from: <<https://dialnet.unirioja.es/descarga/articulo/2316380.pdf>>

Singleton, D. & Ryan, L. (2004) *Language Acquisition: The Age Factor*. 2nd edition. Clevedon, Buffalo, Toronto: Multilingual Matters LTD.

Strubell, M. (1996) 'Language Planning and Bilingual Education in Catalonia', in *Journal of Multilingual and Multicultural Development*, 17(2-4), pp. 262-275. Accessed 10/01/2021 from: <<https://doi.org/10.1080/01434639608666279>>

Tallgrass Sudbury School: <<https://www.tallgrassudbury.org/>> Accessed 04/04/2021.

Titone, R. (1973) *Bilingui a Tre Anni*. Roma: Armando Editore.

Uhrmacher, P. B. (1995) 'Uncommon Schooling: A Historical Look at Rudolf Steiner, Anthroposophy, and Waldorf Education', in *Curriculum Inquiry* 25(4), pp. 381-406. Cambridge (USA) and Oxford (UK): Blackwell Publishers.

Vistilli, G. (2020) ‘Nel borgo senza Internet le lezioni riprendono nel bosco: “Aule tra gli alberi per fare tornare il sorriso ai bambini”’, in *La Repubblica* (online). Published 16/05/2020. Accessed 09/01/2021 from:

<[https://rep.repubblica.it/pwa/locali/2020/05/16/news/nel\\_borgo\\_senza\\_internet\\_le\\_lezioni\\_riprendono\\_nel\\_bosco\\_aule\\_tra\\_gli\\_alberi\\_per\\_far\\_tornare\\_il\\_sorriso\\_ai\\_bambini\\_-256812079/](https://rep.repubblica.it/pwa/locali/2020/05/16/news/nel_borgo_senza_internet_le_lezioni_riprendono_nel_bosco_aule_tra_gli_alberi_per_far_tornare_il_sorriso_ai_bambini_-256812079/)>

Vygotsky, L.S. (1978) *Mind in Society: the Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L.S. (1934/1986) *Thought and Language*. Revised and edited by Alex Kozulin. Cambridge, MA: The Massachusetts Institute of Technology.

Wartenburger, I., Keerkeren, H. R., Abutalebi, J. Cappa, S. F., Villringer, A., Perani, D. (2003) ‘Early setting of grammatical processing in the bilingual brain’, in *Neuron* 37, pp. 159-170.

Accessed 04/07/2020 from:  
<<https://reader.elsevier.com/reader/sd/pii/S0896627302011509?token=D00995280BD5B65EF0D2439C279FE5E2A7D26162DB00BC316F4AF5FD40F7B4DECE8BDE784FFACB436BB7174509539D3C>>

Whitebread, D. (2012) *Developmental Psychology & Early Childhood Education*. London: Sage.

Williams-Sieghfredsen, J. (2012) *Understanding the Danish Forest School Approach: Early Years Education in Practice*. London and New York: Routledge.

Winnefeld, J. (2012) ‘Task-based Language Learning in Bilingual Montessori Elementary Schools: Customizing Foreign Language Learning and Promoting L2 Speaking Skills’, in *Linguistik Online*, 54(4), pp.69-83. Accessed 27/10/2019 from:  
<<https://doi.org/10.13092/lo.54.284>>

Wood, D., Bruner, J. and Ross, G. (1976) ‘The role of tutoring in problem solving’, in *Journal of Child Psychology and Psychiatry*, 17, pp. 89-100. Accessed 29/06/2020 from:  
<<https://acamh.onlinelibrary.wiley.com/doi/epdf/10.1111/j.1469-7610.1976.tb00381.x>>

Zavalloni, G. (2003) *Decalogo dei Diritti Naturali di Bimbi e Bimbe*. Accessed 19/08/2020  
from:  
<[http://www.cislscuola.it/fileadmin/cislscuola/content/Scuola\\_e\\_formazione/2018/03\\_2018/19-23\\_Tempi.pdf](http://www.cislscuola.it/fileadmin/cislscuola/content/Scuola_e_formazione/2018/03_2018/19-23_Tempi.pdf)>

## FURTHER READING

Anderson, J. (1985) *Cognitive Psychology and its Implications*. New York: Freeman.

Barkham, P. (9 May 2020) 'I feel I've come home': can forest schools help heal refugee children?, *The Guardian*. Accessed 15/06/2020 from: <<https://www.theguardian.com/education/2020/may/09/i-feel-ive-come-home-can-forest-schools-help-heal-refugee-children>>

Barrable, A. & Arvanitis, A. (2018) 'Flourishing in the forest: looking at Forest School through a self-determination theory lens', in *Journal of Outdoor and Environmental Education* (2019) 22, pp. 39-55. Accessed 16/09/2020 from: <<https://link.springer.com/article/10.1007/s42322-018-0018-5>>

Briscoe, T. (2000) 'Grammatical Acquisition: Inductive Bias and Coevolution of Language and the Language Acquisition Device', in *Language*, Vol. 76, No. 2 (Jun., 2000), pp. 245-296. Accessed 23/07/2020 from: <<https://www.jstor.org/stable/417657>>

Brown, R. (1973) *A First Language*. Cambridge: Harvard Press.

Chertoff, E. (12/12/2012) "No Teachers, No Class, No Homework; Would You Send Your Kids Here?", in *The Atlantic*. Accessed 14/03/2020 from: <<https://www.theatlantic.com/national/archive/2012/12/no-teachers-no-class-no-homework-would-you-send-your-kids-here/265354/>>

Chomsky, N. (1987) 'Transformational grammar: Past, present and future', in *Studies in English Language and Literature*, pp. 33-80. Kyoto: Kyoto University.

Chomsky, N. (1959) 'Review of Skinner's *Verbal Behavior*', in *Language*, Vol. 35, pp. 16-58.

Coluccelli, S. e Pietrantonio, S. (2017) *Il metodo Montessori oggi: Riflessioni e percorsi per la didattica e l'educazione*. Trento: Erickson.

Daniels, H., Cole, M. & Wertsch, J.V. (eds) (2007) *The Cambridge Companion to Vygotsky*. New York: Cambridge University Press.

Dillon, J., Morris, M., O'Donnell, L., Reid, A., Rickinson, M., Scott, W. (2005) *Engaging and Learning With the Outdoors – The Final Report of the Outdoor Classroom in a Rural Context Action Research Project*. National Foundation for Education Research, Berkshire. Accessed 17/06/2020 from: <<http://www.bath.ac.uk/cree/resources/OCR.pdf>>

Editors of the Encyclopedia Britannica (2020) 'Progressive Education', in *Encyclopedia Britannica*. Accessed 22/09/2020 from: <<https://www.britannica.com/topic/progressive-education>>

Garton, S. & Copland, F. (eds) (2019) *The Routledge Handbook of Teaching English to Young Learners*. Oxon/New York: Routledge.

Gill, T. (2011) *Children and Nature: A Quasi Systematic Review of the Empirical Evidence – A Report to the Sustainable Development Commission*. London: Greater London Authority. Accessed 28/10/2020 from: <<https://timrgill.files.wordpress.com/2011/11/children-and-nature-literature-review.pdf>>

Mayberry, R. I., Lock, E. and Kazmi, H. (2002) 'Linguistic ability and early language exposure', in *Nature* 417, p.38. Accessed 20/06/2020 from: <<https://www.nature.com/articles/417038a>>

Montessori, M. (1909) *Il metodo della pedagogia scientifica applicata nelle case dei bambini*. Milano: Garzanti.

Muñoz, C. & Singleton, D. (2011) 'A critical review of age-related research on L2 ultimate attainment', in *Language Teaching*, Vol. 44:01, pp. 1-35. Accessed 25/06/2020 from: <[https://www.researchgate.net/publication/231828863\\_A\\_critical\\_review\\_of\\_age-related\\_research\\_on\\_L2\\_ultimate\\_attainment/link/53d0adb30cf2f7e53cfb8eed/download](https://www.researchgate.net/publication/231828863_A_critical_review_of_age-related_research_on_L2_ultimate_attainment/link/53d0adb30cf2f7e53cfb8eed/download)>

Murelli, V. (2020) 'Covid-19 e scuola: perché bisognerebbe stare il più possibile all'aperto'. (online). Accessed 29/10/2020 from: <<https://www.nostrofiglio.it/bambino/salute/covid-19-e-scuola-perche-bisognerebbe-stare-il-piu-possibile-all-aperto>>

Ord, J. & Leather, M. (2011) 'The Substance Beneath the Labels of Experiential Learning: The Importance of John Dewey for Outdoor Educators', in *Australian Journal of Outdoor Education* 15(2), pp. 13-23. Accessed 01/10/2020 from <[https://repository.guildhe.ac.uk/6290/1/Leather%20in%20Ord%20&%20Leather%20\(2011\)%20-%20AJOE%2015\(2\)%2013-23.pdf](https://repository.guildhe.ac.uk/6290/1/Leather%20in%20Ord%20&%20Leather%20(2011)%20-%20AJOE%2015(2)%2013-23.pdf)>

Pallier, C. (2007) 'Critical period in language acquisition and language attrition', in Köpcke, B. (et al) *Language Attrition: Theoretical Perspectives*. Amsterdam/Philadelphia: Benjamins.

Paradis, M. (2007) 'The Neurofunctional Components of the Bilingual Cognitive System', in Kecskes, I. & Albertazzi, L. (2007) *Cognitive Aspects of Bilingualism*, pp. 3-28. Dordrecht: Springer.

Sahrakhiz, S. (2018) 'The 'outdoor school' as a school improvement process: empirical results from the perspective of teachers in Germany', in *Education 3-13*, 46 (7), pp. 825-837. Accessed 14/10/2020 from: <<https://www.tandfonline.com/doi/pdf/10.1080/03004279.2017.1371202?needAccess=true>>

Saxton, M. (2010/2017) *Child Language: Acquisition and Development* (2nd ed.). Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: SAGE.

Schwarz, R. (2017) *Pädagogische Ansätze für die Kita: Waldkindergarten*. Berlin: Cornelsen.

Scovel, T. (2000) 'A Critical Review of the Critical Period Hypothesis', in *Annual Review of Applied Linguistics* 20, pp. 213-23.

Scovel, T. (1981) 'The Recognition of Foreign Accents in English and Its Implications for Psycholinguistic Theories of Language Acquisition', in Savard, J. G. & Laforge, L. (eds.),

*Proceedings of the 5th Congress of AILA*, pp. 389-401. Laval, Canada: University of Laval Press.

Shaffer, D. and Kipp, K. (2010) *Developmental Psychology: Childhood and Adolescence*. Belmont, CA: Wadsworth.

Singleton, D. (1995) 'A critical look at the critical period hypothesis in second language acquisition research', in D. Singleton & Z. Lengyel (eds.), *The Age Factor in Second Language Acquisition: A critical look at the critical period hypothesis*, pp. 1-29. Clevedon: Multilingual Matters.

Singleton, D. & Lengyel, Z. (eds.) (1995). *The Age Factor in Second Language Acquisition: A critical look at the critical period hypothesis*. Clevedon: Multilingual Matters.

Skinner, B. F. (1957) *Verbal Behaviour*. New York: Appleton-Century-Crofts.

Swain, M. (2005) 'The Output Hypothesis: Theory and Research', in Hinkel, E. (ed.) *Handbook of Research in Second Language Teaching and Learning*, pp. 471-483. Mahwah/New Jersey, Lawrence Erlbaum Associates.

Titone, R. (1972) *Bilinguismo precoce ed educazione bilingue*. Roma: Armando Editore.

Tulving, E. (1985) 'How many memory systems are there?', in *American Psychologist* 40(4), pp. 385-398.

Vygotsky, L.S. (1987) 'Lectures on Psychology', in *The Collected Works of L. S. Vygotsky. Volume I. Problems of General Psychology*. New York: Plenum.

White, L. (2013) 'Universal Grammar (UG) and SLA', in Robinson, P. (ed) *The Routledge Encyclopedia of Second Language Acquisition*, pp. 670-674. Oxon/New York: Routledge.

Wilson, R. A. (2012) 'Teaching among the trees', in *American Forests*. Accessed 08/02/2020 from: <<https://www.americanforests.org/magazine/article/teaching-among-the-trees/>>

## APPENDICES

### APPENDIX I: THE QUESTIONNAIRE

The following pages include the individual responses to the questionnaires, transcribed in the original languages. As mentioned above, N4 and N7 might refer to the same school and this is signalled with the use of italics.

N1. (28/10/2020)

What is the name of your school? [*coded: N1*]

What is the geographical location of your school? \* *Valencia (Spain)*

Age range: \* *other (0-99)*

Setting: your school is... \* *completely outdoors*

How would you describe your curriculum? \* *Other: the FS Methodology is not curriculum based*

To what extent does your curriculum reflect the national guidelines? \* *See above*

Is there any multilingualism in the school setting? \* *The school is in a multilingual community (3 or more languages widely spoken)*

Are you introducing the children to a foreign language or languages? \* *Yes*

Why are you introducing children to a foreign language? (e.g. it is part of the pedagogical approach, parents have requested it, etc.) *Added value to the project*

Why aren't you introducing children to a foreign language? (*No reply*)

How frequently are the children exposed to foreign languages? \* *Once a week*

How many hours a week are the children exposed to foreign languages? \* *Between 3 and 4*

How are you exposing the children to foreign languages? \* *routines (songs or actions that are always the same, e.g. hello song, goodbye song), songs, games, storytelling, books*

Is the foreign language 'teacher' internal or external to the school? *Other: It's two of us running the whole project*

What 'results' or outcomes have you observed? (e.g. how receptive do children seem to the activities in the foreign language?) *It depends on their personal interests. Some take on the challenge and speak the language, others are less so inclined*



What challenges have you faced or are you currently facing? \* *We do not force the kids to learn the language and that is actually why they do learn it.*

Have you solved any problems so far? ?

How did you solve the above-mentioned problems? (*No reply*)

Are you planning to continue to use your current approach? \* *YES*

Are you planning to change your current approach? Why / why not? \* *NO*



N2. (29/10/2020)

1. What is the name of your school? [*coded: N2*]
2. What is the geographical location of your school? \* *Piemonte (Italy)*
3. Age range:\* *6-11*
4. Setting: your school is... \* *Other: Outdoors but with an indoor classroom for days when kids need more concentration or if weather is extreme*
5. How would you describe your curriculum? \* *Other: Planned around each individual child but using the national curriculum*
6. To what extent does your curriculum reflect the national guidelines? \* *Loosely*
7. Is there any multilingualism in the school setting? \* *The school is in a bilingual community (2 languages widely spoken)*
8. Are you introducing the children to a foreign language or languages? \* *Yes*
9. Why are you introducing children to a foreign language? (e.g. it is part of the pedagogical approach, parents have requested it, etc.) *We believe that children can easily learn a second language in a natural environment*
10. Why aren't you introducing children to a foreign language? (*No reply*)
11. How frequently are the children exposed to foreign languages? \* *Every day*
12. How many hours a week are the children exposed to foreign languages? \* *Between 4 and 5*
13. How are you exposing the children to foreign languages? \* *routines (songs or actions that are always the same, e.g. hello song, goodbye song), songs, games, storytelling, books, teacher-led 'lessons' about specific topics*

14. Is the foreign language 'teacher' internal or external to the school? *internal (the teacher works with the children every day and is part of the regular staff)*
15. What 'results' or outcomes have you observed? (e.g. how receptive do children seem to the activities in the foreign language?) *The children pick up the day to day language and start to naturally repeat sequences. They also like listening to songs and participating in guessing games.*
16. What challenges have you faced or are you currently facing? \* *Sometimes the children tune in more to the native tongue teachers or lose interest in the second language books and stories.*
17. Have you solved any problems so far? *Yes*
18. How did you solve the above-mentioned problems? *Shorter lessons/books with more interaction and lots of art and manual activities*
19. Are you planning to continue to use your current approach? \* *YES*
20. Are you planning to change your current approach? Why / why not? \* *NO*



N3. (24/11/2020)

1. Qual è il nome della vostra scuola? [*coded: N3*]
2. Qual è il luogo in cui si trova la vostra scuola? \* *Chieri, Torino, Piemonte*
3. Qual è l'età dei bambini nella vostra scuola? \* *3–6*
4. Contesto: la vostra scuola è... \* *parzialmente all'aperto*
5. Come descrivereste il vostro curriculum? \* *Pianificato in base alle linee guida nazionali*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali? \* *50%*
7. C'è del multilinguismo nel contesto della vostra scuola? *La scuola è in una comunità monolingue, ma alcuni bambini sono bilingui o multilingui per motivi familiari*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *È parte del nostro approccio pedagogico*

10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere?  
*(Nessuna risposta)*
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *Ogni giorno*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *Tra 4 e 5 ore*
13. Come state esponendo i bambini alle lingue straniere? \* *Routine (canzoni o azioni ripetute, es. Hello song, goodbye song), canzoni, giochi, storytelling, libri*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al*  
*(l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo)*
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *I bambini sono aperti alla lingua straniera al 10%*
16. Quali sfide avete affrontato o state affrontando? \* *la mancanza di personale qualificato che è anche disposto ad interagire coi bambini in una lingua straniera*
17. Ci sono dei problemi che ad oggi avete risolto? *(Nessuna risposta)*
18. Come avete risolto i suddetti problemi?*(Nessuna risposta)*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Sì*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *No, lo consideriamo valido*



N4. (24/11/2020)

1. Qual è il nome della vostra scuola? [*coded: N4*]
2. Qual è il luogo in cui si trova la vostra scuola? \* *Italia - Sicilia - Siracusa - Noto*
3. Qual è l'età dei bambini nella vostra scuola? \* *Altro: da 0 a 11 anni*
4. Contesto: la vostra scuola è... \* *completamente all'aperto*
5. Come descrivereste il vostro curriculum? \* *Altro: Sperimentale (svolgiamo 2 ore di didattica tradizionale e 2 ore di didattica esperienziale)*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali?  
\* *Riflette in toto le linee guida, se si osserva che sono competenze trasversali e multidisciplinari. Non crediamo nell'unicità delle materie, ma nella conoscenza condivisa tra i bambini e gli adulti, seguendo gli interessi dei bambini stessi*

7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità monolingue, ma alcuni bambini sono bilingui o multilingui per motivi familiari*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Altro: In parte: abbiamo bimbi madrelingua tedeschi, americani, inglesi. Una nostra insegnante è madrelingua spagnola*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *Perché per noi il multiculturalismo è alla base dei valori pedagogici che diffondiamo*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere? *Non facciamo "inglese" o "lingua straniera" ma cantiamo e giochiamo con le lingue*
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *Altro: Tendiamo ad assecondare gli interessi dei bambini, quindi non è quantificabile*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *Altro: Sarebbe un dato troppo rigido per ciò che succede*
13. Come state esponendo i bambini alle lingue straniere? \* *canzoni, giochi, libri*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al (l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo)*
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *Una facilità di apprendimento, un'interesse crescente*
16. Quali sfide avete affrontato o state affrontando? \* *'imporre' una lingua straniera è contrario ai principi pedagogici della scuola*
17. Ci sono dei problemi che ad oggi avete risolto? *Non abbiamo un'ora curricolare, ma l'uso di canzoni, libri e la libertà creativa ci permettono di giocare con le lingue*
18. Come avete risolto i suddetti problemi? *(Nessuna risposta)*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Sì*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *forse nel tempo potremmo pensare a dei laboratori specifici da fare con cadenza settimanale*



N5. (25/11/2020)

1. Qual è il nome della vostra scuola? [coded: N5]

2. Qual è il luogo in cui si trova la vostra scuola? \* *Montecchio Emilia RE*
3. Qual è l'età dei bambini nella vostra scuola? \* *6-11*
4. Contesto: la vostra scuola è... \* *parzialmente all'aperto*
5. Come descrivereste il vostro curriculum? \* *emergente*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali?  
\* *Vengono rispettate attraverso una pedagogia alternativa*
7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in un contesto monolingue*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *Nelle attività pomeridiane abbiamo proposto un corso di inglese e spagnolo outdoor*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere? *NA*
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *Una volta a settimana*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *Tra 1 e 2 ore*
13. Come state esponendo i bambini alle lingue straniere? \* *Altro: uscite sul territorio*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *esterno/a (l'insegnante viene a scuola solo per interagire coi bambini nella lingua straniera)*
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *numero ridotto di partecipanti (è il primo anno che lo proponiamo e comunque nell'extrascolastico non nei servizi) coinvolgimento e interesse molto positivo*
16. Quali sfide avete affrontato o state affrontando? \* *la mancanza di personale qualificato che è anche disposto ad interagire coi bambini in una lingua straniera*
17. Ci sono dei problemi che ad oggi avete risolto? *NA*
18. Come avete risolto i suddetti problemi? *NA*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Forse (indecisione)*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *no, tutte le attività dell'associazione seguono questo approccio outdoor*



N6. (25/11/2020)

1. Qual è il nome della vostra scuola? [*coded: N6*] - *non siamo una scuola ma un'Associazione Culturale Ricreativa e Sportiva*
2. Qual è il luogo in cui si trova la vostra scuola? \* *Sardegna provincia di Cagliari*
3. Qual è l'età dei bambini nella vostra scuola? \* *3-6*
4. Contesto: la vostra scuola è... \* *completamente all'aperto*
5. Come descrivereste il vostro curriculum? \* *emergente*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali? \* *Nel conseguimento degli obiettivi di sviluppo psico motorio emozionale relazionale, di autonomia raccomandati dalle linee guida nazionali*
7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità bilingue (2 lingue parlate comunemente)*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *Abbiamo un naturale approccio alle lingue straniere dettato anche dalla presenza di bambini stranieri e insegnanti bilingue*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere? *(Nessuna risposta)*
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *ogni giorno*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *non è quantificabile in quanto la lingua straniera viene inserita in contesto spontaneo*
13. Come state esponendo i bambini alle lingue straniere? \* *in tutti i modi indicati (routine, canzoni, giochi, storytelling, libri), tranne lezioni specifiche*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al (l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo)*
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *i bambini sono molto aperti, incuriositi e apprendono con curiosità e gioia*
16. Quali sfide avete affrontato o state affrontando? \* *'imporre' una lingua straniera è contrario ai principi pedagogici della scuola*
17. Ci sono dei problemi che ad oggi avete risolto? \* *(Nessuna risposta)*
18. Come avete risolto i suddetti problemi? *(Nessuna risposta)*

19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Si*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *Non intendiamo cambiare il nostro approccio*



N7. (30/11/2020)

1. Qual è il nome della vostra scuola? [*coded: N7*]
2. Qual è il luogo in cui si trova la vostra scuola? \* *Noto, SR*
3. Qual è l'età dei bambini nella vostra scuola? \* *6-11*
4. Contesto: la vostra scuola è... \* *completamente all'aperto*
5. Come descrivereste il vostro curriculum? \* *Misto*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali?  
\* *Ci dà una guida, ma prendiamo spunto dei bisogni e competenze dei bambini*
7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità monolingue, ma alcuni bambini sono bilingui o multilingui per motivi familiari*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Si*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *In parte approccio pedagogico, in parte chiesto dai genitori e bambini*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere?  
(*Nessuna risposta*)
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *una volta a settimana*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *tra 1 e 2 ore*
13. Come state esponendo i bambini alle lingue straniere? \* *canzoni, giochi, libri*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al*  
(*l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo*)
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *Molto aperti*

16. Quali sfide avete affrontato o state affrontando? \* *le lingue straniere sono difficili da integrare nel curriculum*
17. Ci sono dei problemi che ad oggi avete risolto? \* *Il tempo*
18. Come avete risolto i suddetti problemi? *Includendo le lingue straniere negli spazi di didattica esperienziale, attraverso le canzoni o il contatto diretto con i genitori che parlano la lingua straniera*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Altro: Possiamo migliorare*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *Cambiare, nel senso di migliorare per offrire ai bambini l'opportunità di imparare altre lingue. Anche il siciliano*



N8. (03/12/2020)

1. Qual è il nome della vostra scuola? [*coded: N8*]
2. Qual è il luogo in cui si trova la vostra scuola? \* *Tenno, Trentino*
3. Qual è l'età dei bambini nella vostra scuola? \* *3-6*
4. Contesto: la vostra scuola è... \* *completamente all'aperto*
5. Come descrivereste il vostro curriculum? \* *emergente*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali? \* *le supera, essendo un approccio di pedagogia integrale nel bosco, pioniere per l'Italia*
7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità monolingue, ma alcuni bambini sono bilingui o multilingui per motivi familiari*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *i bambini lo fanno naturalmente tra loro*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere? (*Nessuna risposta*)
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *ogni giorno*



12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *tra 4 e 5 ore*
13. Come state esponendo i bambini alle lingue straniere? \* *routine, canzoni, giochi, libri*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al*  
(*l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo*)
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *si inseriscono con curiosità*
16. Quali sfide avete affrontato o state affrontando? \* *'imporre' una lingua straniera è contrario ai principi pedagogici della scuola*
17. Ci sono dei problemi che ad oggi avete risolto? \* *(Nessuna risposta)*
18. Come avete risolto i suddetti problemi? *(Nessuna risposta)*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Sì*
20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *No*



N9. (06/12/2020)

21. Qual è il nome della vostra scuola? [*coded: N9*]
22. Qual è il luogo in cui si trova la vostra scuola? \* *Ortisei, Alto Adige*
23. Qual è l'età dei bambini nella vostra scuola? \* *3-6*
24. Contesto: la vostra scuola è... \* *completamente all'aperto*
25. Come descrivereste il vostro curriculum? \* *Formazione Educare nel bosco-Pedagogia del bosco organizzato da Canalescuola*
26. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali?  
\* *Abbiamo tutti i corsi obbligatori (pronto soccorso, sicurezza al lavoro, antincendio) più le formazioni specifiche come pedagogia del bosco, riconoscere le risorse del bosco, psicologia e meteorologia*
27. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità multilingue (3 o più lingue parlate comunemente)*
28. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
29. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *Perché nel nostro*

*paese tutte le attività, asili e scuole vengono svolte in tre lingue: italiano, tedesco e ladino e anche tutti i genitori ce lo hanno chiesto*

30. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere?  
*(Nessuna risposta)*
31. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *ogni giorno*
32. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *più di 5*
33. Come state esponendo i bambini alle lingue straniere? \* *routine, canzoni, giochi, storytelling, libri, 'lezioni' su argomenti specifici*
34. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *interno/al (l'insegnante lavora coi bambini ogni giorno e fa parte del personale di ruolo)*
35. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *Sinceramente sono molto aperti e ormai hanno integrato tutte le lingue anche nei loro giochi di ruolo*
36. Quali sfide avete affrontato o state affrontando? \* *motivare i bambini di parlare la lingua straniera senza motivarli....ma intanto è importante che sentono le altre lingue che diventa un'abitudine/una cosa normale*
37. Ci sono dei problemi che ad oggi avete risolto? \* *(Nessuna risposta)*
38. Come avete risolto i suddetti problemi? *(Nessuna risposta)*
39. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Sì*
40. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *No, perchè tutti sono contenti come sta andando, i bambini si divertono a imparare le lingue in questo modo, tutto gioco libero e più che altro apprendimento per scoperta*



N10. (07/12/2020)

1. Qual è il nome della vostra scuola? *[coded: N10]*
2. Qual è il luogo in cui si trova la vostra scuola? \* *Friuli Venezia Giulia, Udine, Sedegliano*
3. Qual è l'età dei bambini nella vostra scuola? \* *Altro: 2-6*
4. Contesto: la vostra scuola è... \* *parzialmente all'aperto*

5. Come descrivereste il vostro curriculum? \* *Altro: che osserva i reali bisogni dei bambini*
6. In che misura il vostro curriculum riflette le linee guida o raccomandazioni nazionali?  
\* *In tutto, sono molto chiare ma allo stesso tempo lasciano la libertà di autonomia educativa e didattica*
7. C'è del multilinguismo nel contesto della vostra scuola? \* *La scuola è in una comunità monolingue, ma alcuni bambini sono bilingui o multilingui per motivi familiari*
8. State facendo familiarizzare i bambini con una o più lingue straniere? \* *Sì*
9. Perché state facendo familiarizzare i bambini con una o più lingue straniere? (es. è parte dell'approccio pedagogico, i genitori ve lo hanno chiesto, ecc.) *Perché comunque i bambini nel loro quotidiano sono già esposti all'inglese, inoltre i bambini a quest'età hanno la possibilità di apprendimenti significativi, e attraverso il gioco e la quotidianità, perché non utilizzare l'inglese ogni tanto?*
10. Perché NON state facendo familiarizzare i bambini con una o più lingue straniere? *NA*
11. Quanto frequentemente sono esposti i bambini alle lingue straniere? \* *Altro: dipende, anche una volta/ due al giorno, non abbiamo istituito l'ora di inglese.. ma nell'arco di ogni giornata, quando lo riteniamo utile usiamo anche l'inglese*
12. Quante ore a settimana sono esposti i bambini alle lingue straniere? \* *Dipende, non saprei quantificare in tempo*
13. Come state esponendo i bambini alle lingue straniere? \* *routine, canzoni, giochi, storytelling, altro: usando espressioni in inglese per le azioni della loro routine (es. togliamo gli stivali, entriamo e andiamo in bagno,...)*
14. L'insegnante di lingua straniera è esterno/a o interno/a alla scuola? *Altro: c'è un insegnante referente del progetto di inglese all'interno del nostro gruppo docenti, ma nella realtà poi tutte noi insegnanti siamo coinvolte nel progetto*
15. Quali 'risultati' o esiti avete osservato? (es. quanto aperti sembrano i bambini alle attività in lingua straniera?) *Molto aperti.. ripetono tutto in maniera autonoma e divertita, ma soprattutto a lungo andare riutilizzano anche tra di loro, nel gioco o nelle routine, espressioni in inglese*
16. Quali sfide avete affrontato o state affrontando? \* *Altro: nessuno per il momento*
17. Ci sono dei problemi che ad oggi avete risolto? \* *NA*
18. Come avete risolto i suddetti problemi? *NA*
19. Intendete continuare ad utilizzare il vostro attuale approccio? \* *Sì*

20. Intendete cambiare il vostro attuale approccio? Perché, o perché no? \* *Per il momento no*



N11. (23/10/2020)

1. ¿Cuál es el nombre de su escuela? [*coded: N11*]
2. ¿Cuál es la ubicación de su escuela? (País, región, etc.) \* *Collado Mediano, España*
3. ¿Qué edad tienen los niños de su escuela? \* *3-6*
4. Ubicación: su escuela... \* *se encuentra parcialmente al aire libre*
5. ¿Cómo describiría el currículo? \* *No hay currículo, se basa en el juego libre*
6. ¿En qué medida corresponde su currículo a las indicaciones nacionales? \* *No corresponde*
7. ¿Existe el multilingüismo en su escuela? \* *La escuela forma parte de un contexto monolingüe*
8. ¿Su escuela está acercando a los niños a alguna lengua extranjera? \* *No*
9. ¿Por qué su escuela está acercando a los niños a una o más lenguas extranjeras? (ej. es parte del enfoque pedagógico, los padres quieren que se haga, etc.) *N/A*
10. ¿Por qué su escuela NO está acercando a los niños a ninguna lengua extranjera? *Aunque hay familias mixtas (bilingües en diferentes idiomas) no se demanda el aprendizaje de otra lengua en el contexto de la escuela*
11. ¿Con qué frecuencia están los niños en contacto con las lenguas extranjeras? \* *Otro: Depende de cada familia. Ninguna en la escuela.*
12. ¿Cuántas horas por semana están los niños en contacto con las lenguas extranjeras? \* *Otro: Depende de cada familia. Ninguna en la escuela.*
13. ¿De qué manera están los niños en contacto con las lenguas extranjeras? \* *Otro: Cada familia mixta tiene su forma de trabajarlo en casa; no se hace en la escuela*
14. ¿El/la 'enseñante' de lengua extranjera es interno/a o externo/a a la escuela?
15. ¿Qué 'resultados' o efectos han observado? (ej. ¿Cuánto receptivos parecen los niños durante las actividades en lengua extranjera?) *N/A*
16. ¿Cuáles retos ha enfrentado o está enfrentando su escuela? \* *Otro: una mezcla de las anteriores (carencia de enseñantes profesionales dispuestos a interactuar con los niños*

en lenguas extranjeras; las lenguas extranjeras son difíciles de integrar en el currículo; los niños no responden de manera positiva a las actividades en lenguas extranjeras; la 'imposición' de lenguas extranjeras es contraria a los principios pedagógicos de la escuela)

17. ¿Han resuelto algunos problemas hasta ahora? \* No
18. ¿Cómo resolvieron los problemas antedichos?
19. ¿Tienen planificado continuar utilizando los métodos actuales? \* Sí
20. ¿Tienen planificado cambiar los métodos actuales? Por qué / Por qué no? \* No, excepto que las familias lo demanden. Buscaríamos una solución, en ese caso

## APPENDIX II: ANSWERS IN WRITING

In addition to the data collected in the questionnaire, the researcher received a written response from a Forest School Network in the UK. The response is reported below:

*A forest school network in the UK*

02/11/2020

Dear Joangela

Thank you for your email regarding forest schools and language teaching. However having looked at the survey I don't think it fully understands the nature of a forest school.

Forest school is the name given to an approach to learning and play, which uses nature as a setting, and supports the development of children through nature-based activities. It is not a type of education establishment like a regular primary or secondary school. In most cases where children attend forest school through school, it is [a] small part of their education in a formal school, e.g. a morning or afternoon a week for one term or more. Sometimes forest school is something they do at weekends or during the school holidays. Apart from a small number of forest school nurseries, forest school is not [an] an education setting offering full time education in the UK. Schools either have a teacher with forest school experience or invite a forest school practitioner to come to school to deliver forest school programmes. As such, forest school does not have a curriculum nor is it required to teach subjects such as languages, as the content at forest school is based around the individual learner and language teaching is based on the school's policy, not the forest school practitioner. This film explains the forest school approach: <https://www.forestschoollassociation.org/what-is-forest-school/>

I did look at your survey but I think myself and other forest school contacts would find it difficult to complete as it does not match the way forest school works in the UK.

I am sorry that we can't help you on this occasion but please do get in touch if you would like to understand more about forest school.

Regards

[name of Communications Officer]

Furthermore, because the questionnaire was also published on a forest school group page on a social media website, the researcher also received this private message:

29/10/2020

Dear Jo, I write to you this way, as the questionnaire can not be applied to my situation, but might be still interesting for you.

I do not run a school, I run different outdoor sessions in different contexts for an NGO in Georgia (the country). And therefore the age differs depending on the context.

Everything I do is multilingual. This starts from the fact that I am a German native, running the lessons in German or English, for participants which are multilingual as well in different levels. Usually I have someone with me translating in addition into Russian and / or Georgian. This is not a specific language training, but all sides profit in their language skills as side effects.

In addition, I have developed a guideline for German language teachers, how to use elements of nature pedagogy for language training outdoors. It was actually very well perceived from teachers and pupils alike (according to feedback).

Good Luck,

[name of the writer]